

SPONGES.



R. CRESSWELL & CO.,
SPONGE IMPORTERS AND MERCHANTS,
 32 RED LION SQUARE, LONDON, W.C.;
 And at **PIRÆUS** and **SMYRNA**.

LARGEST AND BEST ASSORTED STOCK IN THE WORLD.

HONEYCOMB SPONGES

IN CASES.
 IN BOXES.
 IN BALES.
 ON STRINGS.
 ON CARDS.
 BY WEIGHT.

FINE TURKEY SPONGES

IN CASES.
 IN BOXES.
 IN BALES.
 ON STRINGS.
 ON CARDS.
 BY WEIGHT.

All kinds of Florida, Bahama, and Egyptian Sponges in large variety.

FOR FULL PARTICULARS SEE ILLUSTRATED PRICE LIST IN OCTOBER NUMBER AND DIARY.
 SEPARATE LIST SENT FREE ON APPLICATION.

ESTABLISHED 1850.

5 EXHIBITION MEDALS (Highest Awards).

WRITE FOR OUR COMPLETE PRICE LIST.

THE ORIGINAL HOUSE. NOTE PARTICULARLY ADDRESS.

THE EDINBURGH COFFEE ESSENCES.

INVIGORATING, DELICIOUS, ECONOMICAL, AND CONVENIENT.

SYMINGTON'S PURE COFFEE ESSENCE.



This Essence is guaranteed to contain all the soluble constituents of COFFEE (the only addition being Pure Sugar), the GRATEFUL AROMA of the freshly roasted Beans being retained by their Special Process of manufacture.

The New 1s. Bottle makes 30 Cups of Coffee, equal to that made—in the most approved manner—direct from the finest Beans.

SYMINGTON'S PURE COFFEE ESSENCE is an almost certain cure for Nervous Headaches, etc.

A Sample Bottle will be forwarded free by Post to any Chemist on receipt of Card.

SYMINGTON'S DANDELION COFFEE ESSENCE

Is Specially adapted for the Dyspeptic and Bilious who cannot take ordinary Coffee.

This Beverage combines the Medicinal virtues of Taraxacum with the refreshing properties of Coffee

The Shilling Bottle makes 25 Cups of Coffee.

Extract from the LANCET.

"The Essence of Dandelion Coffee is really an excellent substitute for coffee, and will, we think, be an advantage to many bilious and dyspeptic patients."

Extract from the BRITISH MEDICAL JOURNAL.

"Symington & Co.'s Coffee Essences have a standard reputation, and possess great merit. The Coffee Essence must be prepared *in vacuo* at a low temperature, as the aroma of the Coffee is well preserved; in its essential qualities it does not differ in any way from a cup of Coffee made in the ordinary way."



Forty large Cups of delicious Coffee made without trouble, for One Shilling, by using

SYMINGTON'S ESSENCE OF COFFEE AND CHICORY

Prepared from the finest Coffee, with a suitable proportion of Chicory, which is generally preferred.

The great and increasing demand for this article warrants the assertion that it is the

COFFEE FOR THE MILLION.



THOS. SYMINGTON & CO., CHEMISTS, EDINBURGH.

LONDON OFFICE—11 CULLUM STREET, E.C.

Telephone No. 7525.

Prize Medals,
CALCUTTA & VIENNA,
1884. 1893.
LONDON 1881.

Cable Address—IODINE, LONDON.

FLETCHER, FLETCHER & STEVENSON,



NORTH LONDON CHEMICAL WORKS,



HOLLOWAY, LONDON, N.

MAKERS OF
CITRATE OF IRON AND QUININE
FLUID EXTRACTS

(EVAPORATED IN VACUO).

Pepsine Pure P.B. Pepsine Porci.

LIQUID AMMONIA '880 AND CARBONATE.

RESUBLIMED IODINE.

QUININE, STRYCHNINE, AND OTHER ALKALOIDS,

ACID CARBOLIC PURE, P.B.,

BEECHWOOD CREASOTE

(INSOLUBLE IN PRICES GLYCERINE),

CONCENTRATED FRUIT ESSENCES.

TINCTURES AND SPIRITS SHIPPED IN BOND.

Sulphuric, Nitric, Phosphoric, AND EVERY OTHER
PURE ACID.

CHEMISTS' TRANSFERS.**MESSRS. ORRIDGE & CO., 32 LUDGATE HILL, E.C.,
CHEMISTS' TRANSFER AGENTS,**

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION. Immediate attention given to Foreign Commissions. Terms for Valuation on application. N.B.—No CHARGE TO PURCHASERS.

BUSINESSES FOR DISPOSAL.**REVISED SCALE OF CHARGES.**

Announcements appearing under this heading are charged as follows:—

Five Lines (Fifty Words) and under 3/6. Cash must be sent with order.

All Advertisements should reach the Office, 42 Cannon Street, not later than Thursday next.

GLOUCESTERSHIRE.—In one of the best corner positions of a fashionable town, a high-class Dispensing and Retail Business; a great many very valuable proprietary articles, rapidly increasing in sale, one registered lately bringing in £100 per year; full prices obtained; returns £900; no goodwill, only a valuation. Apply to F. J. Brett, Valuer, Leicester; Langton, Edden, Hicks & Claik; Maw, Son & Thompson; Southall Brothers & Barclay.

TO CHEMISTS AND DRUGGISTS.—For sale, very old-established Business in centre of Deal; present hands over 40 years; celebrated for Pills and Ointment well known in all countries; continued ill-health compels proprietor's retirement from business; stock and shop-fittings at valuation; freehold of shop and premises may be purchased or leased. Apply, West & Usher, Auctioneers, Deal.

FOR IMMEDIATE DISPOSAL, a small but genuine Manufacturing Chemist's Lozenge Business, principally specialities that are well known to the trade; established in London 14 years; £1,000 is requisite to purchase the entire business—goodwill, formulas, stock, utensils, book debts. B. B., care of Mr. Cancey, 44 Cheapside, E.C.

TO CHEMISTS.—Owing to the death of the proprietor a fine opening presents itself in a country town in Yorkshire; old-established business; double-fronted shop; consulting room; very low rental; fixtures and stock (which is low) at valuation; immediate possession. For particulars apply, N. Y. Z., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

SHEFFIELD.—Excellent corner shop, 34 Infirmary Road; situation and fittings specially suitable for chemist, &c.; very good opening; rent £30. Apply, Mr. Bartlett, 47 Bank Street, Sheffield.

CHEMISTS ONLY (splendid opening).—A Medical Man's Open Surgery for disposal, in a new and populous neighbourhood; no opposition; price £150. Apply between 10 and 12 A.M. and 7 and 9 P.M. to the Owner, at 5 Bell Green, Lower Sydenham, S.E. No agents.

OLD-ESTABLISHED Business in Shropshire; good business premises and commodious house and garden, with every convenience; capable of considerable increase by a man acquainted with photography; purchase £400. Address, "Salop," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

SOUTH COAST.—Old-established Light Retail, with Corner Freehold, in one of chief thoroughfares in large town; price about £700. Apply, W. B., care of Messrs. Evans, Lescher & Webb, 60 Bartholomew Close, London, E.C.

GLAMORGANSHIRE.—The Business of Mr. Rees T. Jones, Pharmaceutical Chemist, Treherbert, Rhondda Valley, who is retiring from business; successfully carried on for 12 years; valuable medical and colliery connections; rent and taxes low; easy terms to an immediate purchaser. Apply as above.

ESSEX.—Old-established Country Business, now doing £450 and capable of being doubled; good house, garden, &c.; as vendor must get away early will accept £275 or reasonable offer. F. J. Brett, Valuer, Leicester.

A PERSON commencing business has the opportunity of buying the entire Stock and Fixtures of an elegantly-fitted Pharmacy for £250; fixtures are nearly perfect in condition, and cost recently £700; stock is worth about £200; such a chance of fitting and stocking a new shop in first-class style for this amount rarely occurs. F. J. Brett, Valuer, Leicester.

NEAR LONDON, and close to station, amidst beautiful scenery; only opened a few months; population 4,000 to 5,000, and no opposition; doing about £7; most convenient well-fitted shop and house; large well-stocked garden; private reasons cause of sale; price £350. Address, "Chemist," care of Barclays, 95 Farringdon Street, E.C.

HARLESDEN (near Willesden Junction).—To Let, Shop in Fortune Gate Terrace, with good residence; in a splendid position for a first-class Chemist or other; adjoining the Police Station and National Bank; in best part of Harlesden, N.W.; rent £80. Apply, H. Wakefield, opposite shop.

FOR SALE.

THE GOODWILL AND STOCK-IN-TRADE OF OLD-ESTABLISHED RETAIL CHEMISTS AND DRUGGISTS' BUSINESS, having practically the monopoly in village of 7,000 inhabitants and considerable surrounding district, within a few miles of both Leeds and Bradford; average turnover for last two years about £800; good opening for Dispensary; for immediate sale, in consequence of death; good house over shop, and store-room in yard for inflammables; business premises can be purchased or had on lease; offers wanted. For particulars apply, Messrs. Watson & Dickons, Solicitors, Bradford.

EMPLOYERS WANTING ASSISTANTS.

COMPETENT Assistant, used to a country trade; no heavy work or Sunday duties; a comfortable home and easy hours. Apply, with usual particulars, stating salary required, to G. Johnson, High Street, Godalming, Surrey.

DISPENSER required by a medical man; active and of good character. Address, with age, reference, and salary required, out of house, to Dr. Hoare, Titchfield, Hants.

AN ASSISTANT, about 22 years of age, with Minor qualification, for a mixed Retail business; one who has been accustomed to the Midland trade and desires a permanency preferred; good references required; state salary. J. Marson & Son, Stafford.

THE PATENT BORAX COMPANY, re-arranging some of their ground, are open to engage two steady, industrious Young Travellers; all expenses paid; salary £150 to £200, commission in addition; must be able to show ability in Sale of Proprietary and other Packet Goods; the remuneration will be progressive, and none but travellers with good qualifications are invited to apply; by letter only; usual security. Address, Patent Borax Company, New Market Street, Birmingham.

ASSISTANTS WANTING SITUATIONS.

Announcements appearing under this heading are charged

12 WORDS FOR 1s.;

every additional 3, 4, or 6 words 6d.

TEMPORARY MANAGER, many years in his late business, and well known to Messrs. Herrings, Maw, Sutton, H. A. Thompson, Evans, Gadd & Co.; disengaged at present, July, September, and part of August; terms moderate; recent references to Chemists, &c. 11 Radnor Place, Plymouth.

A QUALIFIED Chemist, working Nottingham and district, is open to represent a good Drug or Sundry House on salary and commission. S. D., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

AS IMPROVER; aged 20; 3 years' experience. - W. N., 83 North Street, Leeds.

THE FRIENDS OF A YOUTH, aged 18, who has had 18 months' experience in a London Retail, desire to place him in a good business where one or more assistants are kept. Apply, G. E. B., Burgess, Willows & Francis, Wholesale Druggists, 101 High Holborn, London, W.C.

MISCELLANEOUS.

All Advertisements should reach the Office, 42 Cannon Street, not later than Thursday next.

AN ESTABLISHED NEW YORK COMMISSION AGENCY,

Representing well-known English Manufacturing Chemists, and now doing an extensive business with the Wholesale Drug Trade of America, can introduce Specialties to advantage; highest references; correspondence solicited.

Address—FRANCIS J. MACNAUGHTAN, 20 Cedar Street, New York City, U.S.A.

DRUGGISTS' SUNDRIES.—Wanted, at once, a Warehouseman with full knowledge of the business. Address, with particulars as to age, salary, and where last employed, Ayrtton & Saunders, Duke Street, Liverpool.

RASPBERRIES, Preserved Fresh by Patent Process.—From Australia the undersigned has a consignment, and invites the attention of jam, syrup manufacturers, and others. Samples can be had from W. A. Sparrow, 2 Jeffreys Square, F.7.

INDIAN TEA GARDENS.

AGENTS REQUIRED (Retail).—Messrs. D. J. Keymer & Co., East India Agents, Whitefriars, London, will be glad to hear from firms of good standing who desire to make a speciality of Indian Tea in Tins or Packets; special gardens could be given if desired.

PRELIMINARY & MINOR.

ALL STUDENTS who are preparing should send for particulars of a method of study which will enable them to pass with ease. Enclose stamped envelope to Mr. J. Tully (Hills Prizeman), Chemist, Hastings. Established 1872. References to past and present Pupils. 43 out of 51 Pupils passed the last Examinations.

ATTENTION!!!

DURING the long summer evenings Chemists might very profitably employ their time in making up goods for winter sale. For instance, a few cheap thimbles of different sizes, a water-bath, and a few pounds of menthol crystals would pay handsomely. We offer 1 lb. of pure Japan Menthol for 10s. 6d., or an original 5 lb. tin for 50s., carriage paid by parcels post on receipt of a P.O.O. for the amount. "Yosheda," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

'HOW A CHEMIST MADE A FORTUNE'

By Selling his own Preparations manufactured from Recipes of acknowledged excellence, and thus retained intermediate profits.

"QUININE AND IRON TONIC."—(Like Peppermint.) An elegant preparation. Keeps well. Pleasant taking. Reliable action. Profitable.

"EFFERVESCENT DEPURATIVE SALINE."—Warranted equal to Epsom or Lamplough's. Perfectly soluble. Costs 10d. per lb. Will keep in any climate.

"RHEUMATIC EMBROCATION."—Rapidly kills pain. Equals St. Jacob's Oil or any other advertised preparation. One quarter the price. Sweet and cleanly.

"LEVER PILLS."—The most perfect combination with Podophyllin. Gentle action, but sure. Purely vegetable. Tonic and stomachic; also

"LUPULINE BITTERS"—Guaranteed of greater medicinal value than the much-advertised "Hop Bitters," decidedly more elegant in appearance, and pleasanter taking. Cost 1s. per lb.

"RED ROSE LOTION."—Invaluable skin depurative (resembling Sulpholine), removes tan, sunburn, roughness, &c., elegant in appearance, delicately perfumed, very profitable.

"TONIC HAIR LOTION."—Most cooling, cleansing, and refreshing; not oily, but renders the hair moist and silky, and stimulates its growth.

"GLYCERINE CREAM."—Perfection of toilet requisites, most useful proprietary for seaside resorts, once used always wanted, quickly removes irritation and redness. Certain to sell, and pays well.

"TIC SPECIFIC."—(Physicians' prescription—concentrated), invariably relieves, has cured when Tonga and Tikheel failed. Can be honestly recommended.

"SANITARY LOTION."—For nits and all uncleanness in children's heads, warranted non-poisonous to all but insect life; one dressing sufficient. Perfectly safe. Large bottles, 1s.

"RINGWORM SPECIFIC."—Two applications will cure the worst case. Cleanly to use; unattended with danger; guaranteed of sterling worth; profitable.

PHYSICIAN'S PRESCRIPTIONS FOR SPERMATORRHEA, and all kindred fearful diseases; over 1,000 cases have been eased and cured by this; recipe embracing mixture and two lots of Pills, with directions for use, originally cost 5 guineas.

Send for detailed list of 300 Recipes. Post Free. Price of Recipes, 1s. 1d. each. Six for 5s. Twenty-five for £1, with full directions for making, doses, uses, and every particular.

SATISFACTION GUARANTEED.

T. BROOKS, Chemist, LOUTH, LINCOLNSHIRE.



ARTIFICIAL HUMAN EYES (GLASS),

Excellent quality, £8 15s per 100.

MEDICAL THERMOMETERS, on massive tubes, length about 4 1/2 in., in boxwood holders, 10/ per doz.; in nickel ditto, 18/ per doz.

CHEMICAL THERMOMETERS, on massive tubes, divided from 0 to 360 deg., C., 21/ per doz.

MERCURIAL AIR PUMPS (Geister's System), complete £5 each.

OSCAR BOCK, Sen., Lichtenhain, n/ Oberweissbach, Germany.

REFERENCES REQUIRED.

Post Free, 10/.

These Twelve Recipes (as sample),

MAY, ROBERTS & CO.,

9 CLERKENWELL ROAD, LONDON, E.C.

TEMPORARY ADDRESS DURING REBUILDING OF PREMISES, 9 MOOR LANE, E.C.

TELEGRAPHIC ADDRESS—"MOAB LONDON."

CATALOGUE OF DRUGGISTS' SUNDRIES AND PATENT MEDICINES OUT OF PRINT AT PRESENT.

CARRIAGE ON SUNDRIES.—Since 1877 we have allowed 5 per cent. discount on orders for £5 worth of "SUNDRIES" in lieu of Carriage. By this arrangement our Friends are enabled to have enclosures sent with our goods, which they were unable to do when we paid Carriage.

NO TRAVELLERS EMPLOYED — BUYERS ARE THEREFORE SPARED THEIR EXPENSES.
COMPARE OUR PRICES.

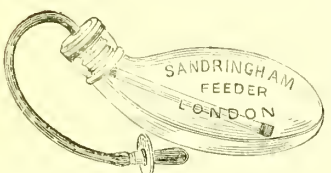
REDUCED PRICES FOR FEEDING BOTTLES.



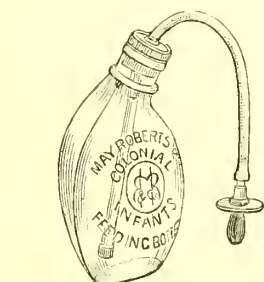
"Sandringham." Earthenware Tops.



"Sandringham." Metal Screw Caps.



"Sandringham." Screw Glass Stoppers.



"Colonial." Earthenware or Wood Tops.

Sandringham (1s.) — WHITE, Earthenware Tops—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 6 0
With Black Fittings, each in box, two brushes . . . per doz.	6 6
Spare White Fittings . . .	3 4
Spare Black Fittings . . .	3 10
Spare Bottles . . .	1 9

Sandringham (1s.) — WHITE, Screw Glass Stoppers—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 6 0
With Black Fittings, each in box, two brushes . . . per doz.	6 6
Spare White Fittings . . .	3 4
Spare Black Fittings . . .	3 10
Spare Bottles . . .	2 0

Sandringham (1s.) — WHITE, Screw Metal Caps, Nickel plated—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 7 0
With Black Fittings, each in box, two brushes . . . per doz.	7 6
Spare White Fittings . . .	4 0
Spare Black Fittings . . .	4 6
Spare Bottles . . .	2 0

Sandringham (2s.) — WHITE, Gilt Porcelain Tops—

With Black Fittings and Spare Glass Tube, Sailed and Teat, each in box, two brushes . . . per doz.	s. d. 11 6
Spare Black Fittings . . .	5 6
Spare Bottles . . .	2 0

Sandringham (3s.) — WHITE, Gilt Porcelain Tops and Cut Glass Stopper—

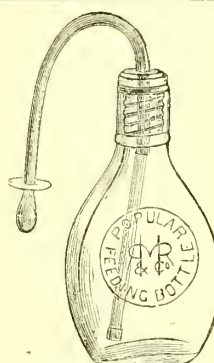
With two sets of Brown Fittings, each in box, two brushes . . . per doz.	s. d. 19 0
Spare Brown Fittings . . .	7 3
Spare Bottles . . .	7 3

Colonial (6d.) — GREEN, Boxwood or Earthenware Tops—

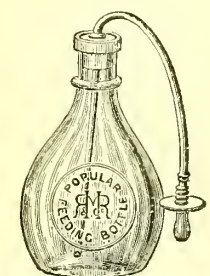
With White Fittings, each in box . . . per doz.	s. d. 2 10
With Black Fittings, each in box . . . per doz.	3 1
With White Fittings, 1 dozen in box . . . per doz.	2 4
With Black Fittings, 1 dozen in box . . . per doz.	2 7
If with White instead of Green Bottles . . . per doz. 2d. extra	
Spare White Fittings per doz.	1 4
Spare Black Fittings . . .	1 7
Spare Green Bottles . . .	1 0
Spare White Bottles . . .	1 2

Colonial (6d.) — GREEN, Screw Glass Stoppers—

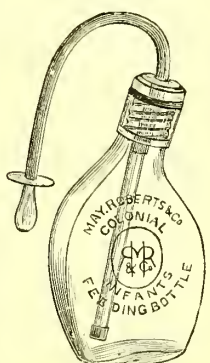
With White Fittings, each in box . . . per doz.	s. d. 3 6
With Black Fittings, each in box . . . per doz.	3 9
With White Fittings, 1 dozen in box . . . per doz.	3 0
With Black Fittings, 1 dozen in box . . . per doz.	3 3
Spare White Fittings . . .	1 6
Spare Black Fittings . . .	1 9
Spare Bottles . . .	1 9



"Popular." Screw Glass Stoppers.



"Popular." Earthenware or Wood Tops.



"Colonial." Screw Glass stopper.

Popular (6d.) — GREEN, Boxwood or Earthenware Tops—

With White Fittings, each in box . . . per doz.	s. d. 2 10
With Black Fittings, each in box . . . per doz.	3 1
With White Fittings, 1 dozen in box . . . per doz.	2 4
With Black Fittings, 1 dozen in box . . . per doz.	2 7
If with White instead of Green Bottles . . . per doz. 2d. extra	
Spare White Fittings per doz.	1 4
Spare Black Fittings . . .	1 7
Spare Green Bottles . . .	1 0
Spare White Bottles . . .	1 2

Popular (6d.) — GREEN, Screw Glass Stoppers—

With White Fittings, each in box . . . per doz.	s. d. 3 6
With Black Fittings, each in box . . . per doz.	3 9
With White Fittings, 1 dozen in box . . . per doz.	3 0
With Black Fittings, 1 dozen in box . . . per doz.	3 3
Spare White Fittings . . .	1 6
Spare Black Fittings . . .	1 9
Spare Bottles . . .	1 9

Popular (1s.) — WHITE, Earthenware Tops—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes . . . per doz.	5 0
Spare White Fittings . . .	2 6
Spare Black Fittings . . .	3 0
Spare Bottles . . .	1 2

Popular (1s.) — WHITE, Screw Glass Stoppers—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes . . . per doz.	5 0
Spare White Fittings . . .	2 6
Spare Black Fittings . . .	3 0
Spare Bottles . . .	1 9

Colonial (1s.) — WHITE, Earthenware Tops—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes . . . per doz.	5 0
Spare White Fittings . . .	2 6
Spare Black Fittings . . .	3 0
Spare Bottles . . .	1 2

Colonial (1s.) — WHITE, Screw Glass Stoppers—

With White Fittings, each in box, two brushes . . . per doz.	s. d. 4 6
With Black Fittings, each in box, two brushes . . . per doz.	5 0
Spare White Fittings . . .	2 6
Spare Black Fittings . . .	3 0
Spare Bottles . . .	1 9

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word. If name and address are not included, one penny per word must be paid.

DEPOSIT OF MONEY.—In order to ensure safety we offer the following system:—The Purchaser of anything advertised in the Exchange Column may remit the amount to us. We acknowledge receipt to both parties by post-cards, and only pay the money deposited on the advice of the remitter. Whether returned to him or paid to the seller, we charge a commission of 6*d.* on any transaction of 3*l.* or less, or 1*s.* if above that amount.

Please note that the Exchange Column appears Weekly. Advertisements must be received not later than Thursday next. Chemists will do well to look up their Surplus Stock and send an Advertisement of same.

FOR DISPOSAL.

Drugs and Chemicals.

4 oz. iodoform, 1*s.* oz.; 3 lbs. bismuth, subnit., 6*s.* 6*d.* lb.; $\frac{1}{2}$ lb. hydrag. iodid. rub., 4*s.*; 3 lbs. potassii iodid., 9*s.* 6*d.* lb.; 2 lbs. ess. bergamott, 6*s.* 6*d.* lb. J. C., Lingdale in Cleveland.

Educational.

British Pharmacopœia, latest editio; Squire's "Companion," 12th edition, good order; what offers? Palmer, Aylesbury.

Cheap.—Twelve modern Manuals on Chemistry, &c., 12*s.* lot, Jones, 127 Gosford Street, Coventry.

Muter's "Chemistry, Theoretical and Practical"; Muter's "Organic Materia Medica"; cash price. Loveluck, 7 Clare Gardens, Cardiff.

Squire's "Companion," 5*s.*; Royle's "Materia Medica," 6*s.*; Bayley's "Chemist's Pocket-book," 3*s.*; Fenwick's "Medical Treatment," 3*s.* 6*d.*; Mayne's "Medical Vocabulary," 5*s.*; "Select Notes," 1*s.* 3*d.*; all late editions, nearly good as new. Gibson, Chemist, Fleetwood.

Soda-water Plant.

Nearly new soda-water-plant, cheap.—1 pair 24-inch pumps, on stand; 1, 25-gallon jacketed pan; 2, 16-gallon cylinders, on stands, fitted with agitators by Hayward Tyler; 1, 30-gallon lead generator; 1 large gasholder and tub; 2, 10-gallon portable cylinders; shafting, pulleys, &c. Idris & Co., Aseham Street, Kentish Town, N.W.

Formulæ.

Recipes for aq. lavand., essence heliotrope (*recherché* perfume), and can de eclogne (same as genuine Farina's); 3*s.* 6*d.* each, or two 6*s.*, three 8*s.* R. Francis, Sullampstead Villa, B'nheim Crescent, W.

Formula for silvering solution, for silvering instantly, without battery, copper, brass, &c., capital proprietary, 5*s.* Following 2*s.* 6*d.* each: perfumed carbolic acid (like Mason's); beetle powder, new and very effectual; sea-sickness, infallible cure for; beef and iron wire; liquor pepsin. J. P. Riddle, Chemist, Sanbury-on-Thames.

Chemists who prefer selling genuine preparations of their own manufacture, rather than the many "puffed" nostrums, should send for my detailed list of 300 recipes, post free anywhere; see my advertisement, page 5, "How a Chemist made a Fortune." Every recipe is guaranteed genuine, and preparation in actual commerce; fifth year continuous advertising; thousands of testimonials; all transactions strictly confidential. T. Brooks, Chemist, Louth, Lines.

Shop Fittings.

Counter-ease, plate glass, flat, 44 $\frac{1}{2}$ by 16 $\frac{1}{2}$ by 6 $\frac{1}{2}$ in.; cost 3*l.* 10*s.*, price 30*s.* 524 Hornsey Road. Mahogany stand, 42 in. long, 16 in. deep, 25 in. high, 4 shelves, 25*s.*; ease, 40*s.* S., 66 High Street, St. John's Wood.

Mahogany glass ease, with mirror back, velvet-lined, sloping shelf, as Maw's fig. 3; 3 ft. 5 in. long, 8 in. deep, and 8 in. wide; perfect condition; price 2*l.* Thorpe, Earls Barton.

Cheap.—Ten 12 gal. globes, with cut stoppers nearly new; any number can be had. Apply to Wm. Hay & Sons, Chemists' Shop, Fitters, 24 and 25 Little Queen Street, Lincoln's Inn Fields, W.C.

Several excellent second-hand nests shop drawers; 1 b. blue canopy ointment jars, 8*d.* each; 2 lb. ditto, 1*s.* 3*d.* each; 3 lb. ditto, 1*s.* 9*d.* each; 4 lb. ditto, 2*s.* 3*d.* each; quantity shop bottles, all sizes; 4 engraved acid bottles, 4*s.*; pair 4 lb. French counter-scales, 15*s.* 6*d.*; pair 10 lb. ditto, 18*s.*; pair 4 lb. marble ditto, 17*s.*; 4 oz. verified measures, 10*s.* dozen; 16 oz. blue (plug) syrup bottles, 9*d.* each; 10, 20 oz. ditto, 8*s.* Simcock, Guildford Street, Leeds.

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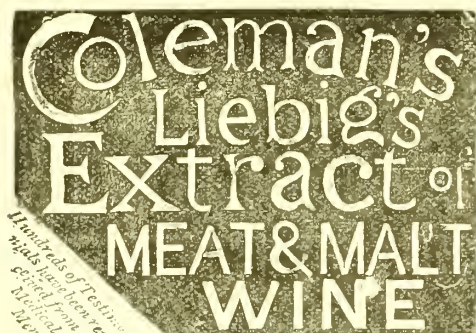
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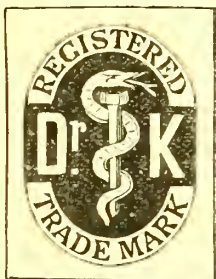
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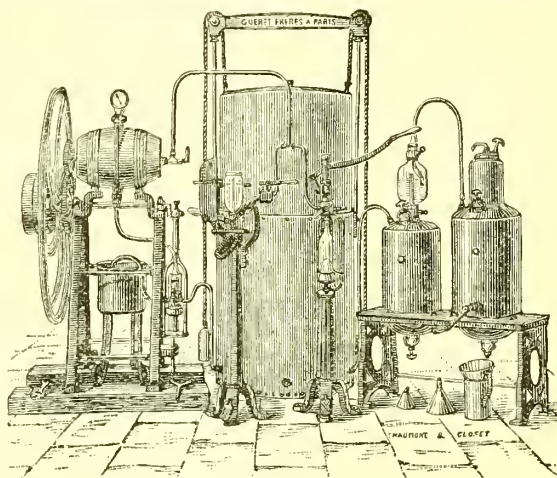
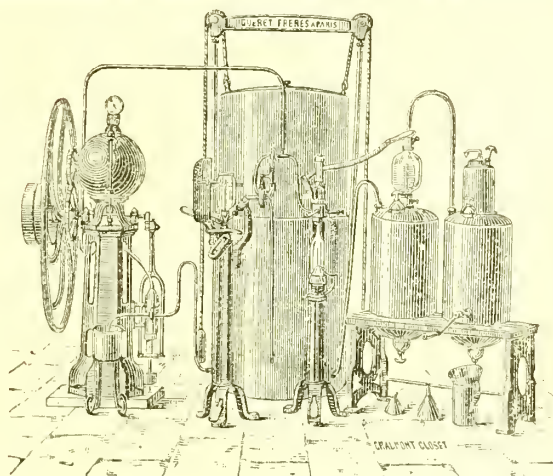
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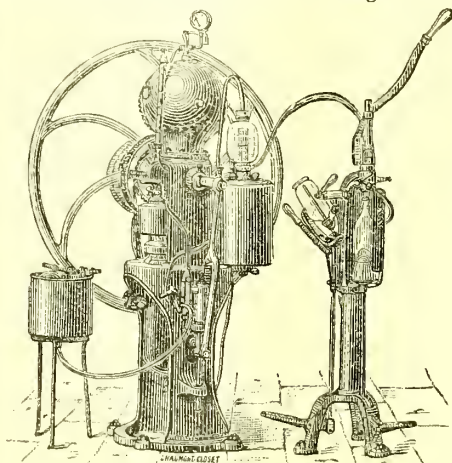
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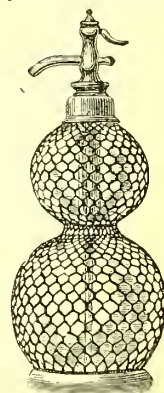
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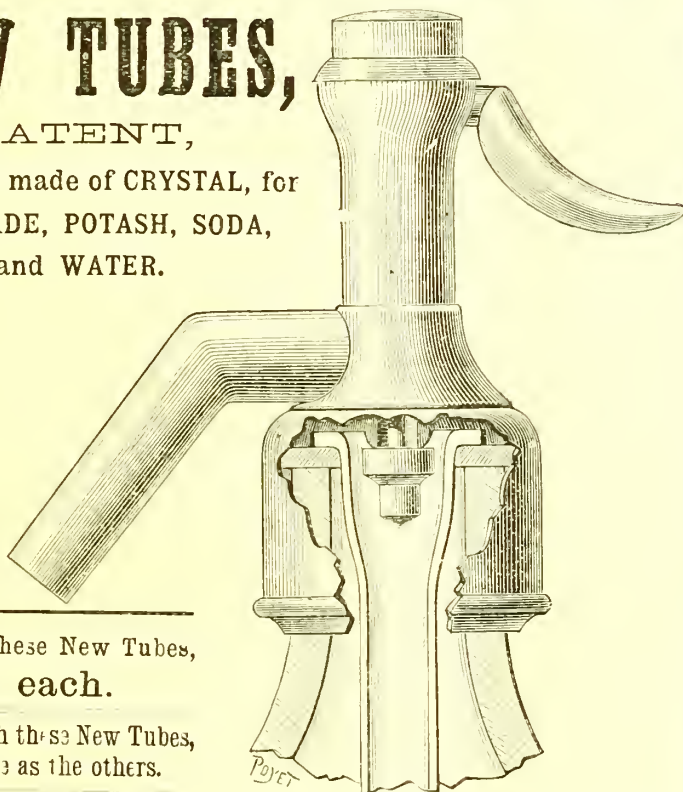
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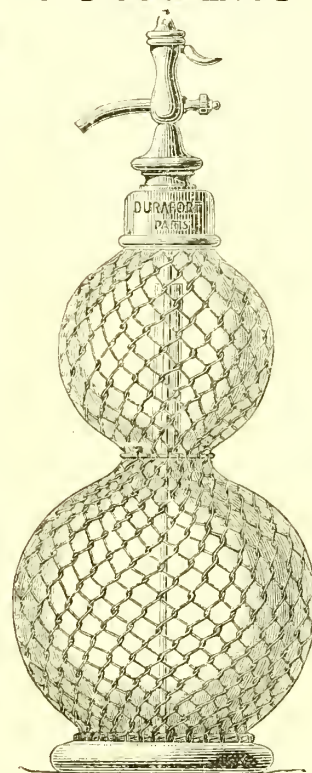
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SUPPLEMENT TO "THE CHEMIST AND DRUGGIST."

SATURDAY, JULY 3, 1886.

i

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CAUTION.—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to WARN the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the LABEL the name of "THE APOLLINARIS COMPANY (LIMITED), London."

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Any Name on Bottles free for orders of 50 Gross. Mould charged 10/- for orders of 10 Gross or upwards for each size or shape.

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No.	Price.	Diameter.	EXTRA SCREENS, up to 60 mesh. above 60 mesh.	
1	£1 0 0	8 inches	4/-	8/-
2	£1 12 0	11 "	5/-	10/-



COPIED FROM A PHOTOGRAPH.

THIS APPARATUS consists of a Screen Box at top into which materials to be mixed are put: Arms (secured to the top cover) break up any lumps that may have become concreted together and force same through a screen of desired mesh; the materials then fall into chamber below, in which they are thoroughly mixed and amalgamated. Each machine is fitted with fast and loose pulleys of sizes mentioned, the central spindle being driven by gearing placed at bottom of Mixer. The prices given for screens are for those screens generally used, but for many materials special screens have to be used, to which these prices do not apply.

No.	Price.	Diameter.	Diam. of Pulleys.	EXTRA SCREENS, up to 40 mesh above 40 mesh.	
1	£7 0 0	15 inches	6 inches	7/-	12/-
2	£11 0 0	20 "	9 "	10/-	15/-
3	£25 0 0	27 "	12 "	15/-	20/-
4	£33 0 0	36 "	15 "	20/-	25/-

Nos. 1 and 2 are Hand and Steam Power.

GEO. E. SHERWIN, Central Works, BIRMINGHAM.

Telephone Number,
1852.

Advertisers' & Buyers' Reference List, AND INDEX TO ADVERTISEMENTS.

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CHEMDRUG
LONDON.

ADVERTISEMENTS APPEARING IN THIS ISSUE OF "THE CHEMIST AND DRUGGIST."

Please note that to satisfy Post Office requirements the Advertisements are paged twice—once in Arabic, once in Roman numerals.

A ALLEN & HANBURY'S <i>Cod Liver Oil, Wholesale Druggists, COVER</i> APOLLINARIS CO. <i>Apollinaris Water, Hunyadi Janos i, xi</i> APOLLINARIS CO. Friedrichshall Water Text 16 ASSISTANTS WANTED 4, 5 ASSISTANTS WANTING SITUATIONS 5	GRIMBLE & CO. <i>Pure Vinegar</i> 11 GRINDLEY & CO. <i>Petroleum Jelly</i> 18 GT. TOWER ST. TEA CO. <i>Celebrated London Teas</i> 11 GUERET FRERES Syphons & Soda Water Plant 12	O OLDFIELD, PATTINSON & CO. <i>Drugs, Chemicals, and Specialities</i> 22 ORRIDGE & CO. <i>Transfer Agents</i> 4
B BAILEY, W. H., & CO. <i>Drug Mill</i> viii BARNETT & FOSTER <i>"Eclipse" Globe-stoppered Bottle</i> 1 BATTLE & CO. <i>Bromidia</i> 18, xx BEECHAM, T. <i>Pills</i> 15 BIGGS, T. <i>Sheep and Lamb Dipping Composition</i> 16 BLAKE & MACKENZIE <i>Chemists' Printers</i> 8 BLIRCKBECK BANK <i>Bank and Building Society</i> 1 BLYTON, T., BAGE & CO. <i>Medicated Lozenges</i> xviii BOLE HALL MILL CO. <i>Surgical Bandages</i> 18 BOCK, OSCAR <i>Artificial Human Eyes</i> 5 BOURNE, JOHNSON & LATIMER <i>Bathing Caps, Glass Filters, &c.</i> 21 BRATBY & HINCHLiffe <i>Aerated Water Machinery</i> 14 BRITISH HOP PACKING CO. <i>Hops</i> 19 BROOKS, T. <i>Formule</i> 5 BURGOYNE, BURBIDGES & CO. <i>Dr. Koch's Meat Peptone</i> 21 BURROUGH, JAMES <i>Methylated Spirits</i> 13 BUSINESSES FOR DISPOSAL 4	H HALLER & CO. <i>Lardine</i> x HAMILTON & CO. <i>Carbolina</i> 19 HARRIS, H., & CO. <i>Bottles</i> viii HEARON, SQUIRE & FRANCIS Terebene, TEXT 16 HERZ & COLLINGWOOD <i>Cod Liver Oil</i> xvi HIRST, BROOKE & HIRST <i>Pharmaceutical Preparations</i> xvii HODGE & CO. <i>Improved Truss</i> 27 HOOPER & CO. <i>Sparkling Seltzer</i> <i>COVER</i> HOP BITTERS CO. <i>Caution</i> xix HOWARDS & SONS <i>Quinine and Pharmaceutical Chemicals</i> xiii HOMOEOPATHIC HOSPITAL <i>Hospital and School</i> 9 HUNYADI JANOS 1	P PARCHMENT, THE WAX PAPER CO. 5 PATTISON, G. <i>Path Gloves</i> vii PATENT PLUMBAGO CRUCIBLE CO. <i>Crucibles, Porous Pots, &c.</i> 18 PELEG WHITE PROPRIETARY CO. <i>Petrolina, Porous Filters</i> xv PETERSON & CO. <i>Sponge</i> ii POWELL & BARSTOW <i>Elastic Gum Instruments</i> 19
C CADBURY BROS. <i>Cocoa Essence, COVER</i> CAVELL <i>Ginger Beer Powders</i> CHISWICK SOAP CO. <i>Soft Soap</i> xi COLEMAN & CO. <i>Libby's Extract of Meat and Malt Wine</i> 10 CRIVEN, M. A., & SON Confectionery, Lozenges 11 CRESSWELL, R., & CO. <i>Sponges</i> 1 CRITCHLEY, T. <i>Starch Glaze</i> 18 CROWN PERFUMERY CO. <i>Perfumery</i> 20	I INGRAM & ROYLE <i>Importers of Natural Mineral Waters COVER</i> J JAMES, PROSSER, M.D. Guide to the New B.P. 9 JAMIESON & CO. <i>Harness Composition, Ink, Blacking, &c.</i> ii JEWSBURY & BROWN <i>Tooth Paste</i> vii JONES, DR. G. H. <i>New Pamphlet</i> 18 JUDSON & SON <i>Specialities x Filtering Medium</i> 27 <i>Glass Filters, Filters 16, Dyes, and Gold Paints</i>	R RIDDLE & CO. <i>Lime Juice Syrup, and Cordial (Storer's)</i> 14, 18 RIMMEL, E. <i>Perfumery Toilet Preparations</i> vi ROBINSON, B. <i>Corn & Wort Powd</i> 27 ROUSE & CO. <i>Matthew's Fuller's Earth</i> vii S SAINSBURY, S. <i>Lavender Water</i> 18 SANGER, J., & SONS <i>St. Ann's Cure, and Benzine Collas</i> 21 SAUNDERS, CHARLES <i>Paraffinum Melle, P.B.</i> 18 SAVARS <i>Mixers</i> ii SHERWIN, G. E. <i>1 Menthol Cones</i> 25 SHIRLEY <i>Filters</i> 17 TEXT 16 SILICATED CARBON FILTER CO. <i>Importers and Exporters</i> ii SMITH, J. & H., & CO. <i>Aloin</i> xvi SOUTH LONDON SCHOOL <i>(W. Baxter, Secretary) School</i> 9 SOUTHALE BROS. & BARCLAY Malt Food xvii STANTIAL, EDWD, S. T. <i>Foreign Agents</i> 18 STEARNS, FRED., & CO. Non-Secret Medicines xiv STEELE, JOHN C., & CO. <i>Chloride of Lime</i> 21 SUTTON, O. <i>O.S. Tooth Block</i> 19 SYMINGTON, THOS., & CO. <i>Coffee Essence</i> 2
D DAY, SON & HEWITT <i>Veterinary Medicine Chests</i> 16 DE PASS, ED., & CO. <i>Petrolina</i> xiv DOBELL, DR. <i>Books</i> 9 DURAFORT <i>Syphons, &c.</i> 13 DURRANT <i>Perfumery</i> 18	K KEMP & SON <i>Ginger Beer Powders</i> 22 KENDAL, J. H. <i>Tonic Bitter</i> 19 KINMOND & CO. <i>Mineral Waters</i> 14 KILNER BROS. <i>Feeding and Dispensing Bottles</i> viii L LEVERMORE, AUG., & CO. <i>Pure Precipitated Chalk</i> 18 LLOYD, A. S. <i>Eucasis</i> 18 LONDON HOMOEOPATHIC HOSPITAL 9 LYNCH & CO. <i>Enemas</i> COVER	T TAYLOR, T. & F. J. <i>Aerated Waters</i> 14 THOMAS, R. W., & CO. <i>Photographic Chemicals</i> ii THOMPSON, MILLARD & CO. (LIM.) <i>Druggists' Sundries</i> 26 TOOGOOD, W. <i>Notice of Removal</i> 28 <i>"Anti-Shower" viii</i> TOWNSEND, J. <i>Handbills and Labels</i> 8 TOWLE, A. P., & SON <i>Thornton's Toilet Cream and Chlorodyne</i> xvii TYRER, J. <i>Ketchup, Sauces, &c.</i> 11
E EDINBURGH CLASSES <i>School of Pharmacy</i> 9 EVANS, LESCHER & WEBB <i>Wholesale Druggists, &c.</i> 8, 14, vii, xii EVANS SONS, & CO. <i>Wholesale Druggists, &c.</i> 8, 14, vii, xii EXCHANGE COLUMN 7	M MAIGNEN, P. A. <i>Filters—"Anti-Calcaire" Powder</i> x MANCHESTER COLLEGE OF PHARMACY 9 MARTINDALE, W. <i>Natro Tablets</i> xvi MAW, SON & THOMPSON Sponges, Insecticide <i>Violet Vi, Loofahs 20, Menthol</i> 24 MAY & BAKER <i>Pharmaceutical Chemicals and Camphor Tablets, Mercurials, Ethers, Bismuth, Soda Carb, COVER</i> MAY, ROBERTS & CO. <i>Feeding Bottles</i> 6 MACNAUGHTAN <i>Foreign Agency</i> 5 METCALF, THEODORE & CO. <i>Port Wine</i> xiv MISCELLANEOUS ADVERTISEMENTS 5 MORGAN CRUCIBLE CO. <i>Portable Furnaces—Crucibles, Porous Pots, &c.</i> 18 MUMFORD, G. S. <i>Pure Fuller's Earth Text</i> 16 MURRAY, SIR JAMES <i>Fluid Magnesia, Fluid Camphor</i> xviii	V VAN ABBOTT <i>Diabetes Foods</i> 18 VOGT, G. <i>Insect Powder, Essential Oils</i> vi, xviii W WALL, G. C. <i>Wax Paper</i> 8 WESTMINSTER COLLEGE <i>Wilts' Universal Postal System</i> 9 WHEELER <i>Glucine Jelly</i> vii WILLIAMS, J. A., & CO. <i>Morphin and all its Salts</i> 19 WOODS, M. W. <i>Arca Tooth Paste</i> vii WRIGHT, LAYMAN & UMNEY <i>Wholesale and Export Druggists COVER</i> WYLEYS & CO. <i>Coated Pills, Pharmaceutical, Wholesale Druggists</i> xvi
F FELLOWS <i>Hypophosphites</i> ix FELTOW & SONS <i>Apple Juice</i> 18 FLETCHER, FLETCHER & STEVENSON <i>Fluid Extracts, Pure Acids, &c.</i> 3 FOLLOWES & BATE <i>Druggists' Mehry, all kinds</i> 23 G GIBSON, R. <i>Medicated Lozenges</i> 27 GLASGOW APOTHECARIES' CO. Recess Bottles viii GOODALL, BACKHOUSE & CO. <i>Yorkshire Relish, &c.</i> 10 GOVERNMENT, THE, SANITARY CO. <i>Disinfectants</i> 27	N NATIONAL CHEMICAL CO. Chloride of Lime 23 NEWBERY & SON <i>Perfumery and Catalogue</i> v NOAKES, B., & CO <i>Metallic Casks, Drums, Kegs, Canisters, Boxes, &c.</i> 23	Y YATES, W. S. <i>Shop Fitter</i> 19 YOUNGER & RIDLEY <i>Temperance Wine Mixtures</i> 1

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Whose Announcements appear in "THE CHEMIST AND DRUGGIST." Those whose Names do not appear above are published in one of the other issues of this month.

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 Bratby and Hinchliffe
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 Schweppe and Co.
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 Younger and Ridley (Temperance Wines)

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 Smith, J. and H.

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 Sharland & Co. (Auckland N.Z.)
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May and Baker

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Dobell, Dr. (Bournemouth)
James, Dr. Prosser (Guide to
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Smith, J. G. ("Aërid Wtrs")

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Simcock, W.
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Smith, T., and H.
Zimmermann

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DYES

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AND SOLUBLE

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Hearn, Riddle and Co.
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May, Roberts and Co.
Richards, Charles (Tube
Cleaner)
Simcock, T.
Thompson, Millard and Co.

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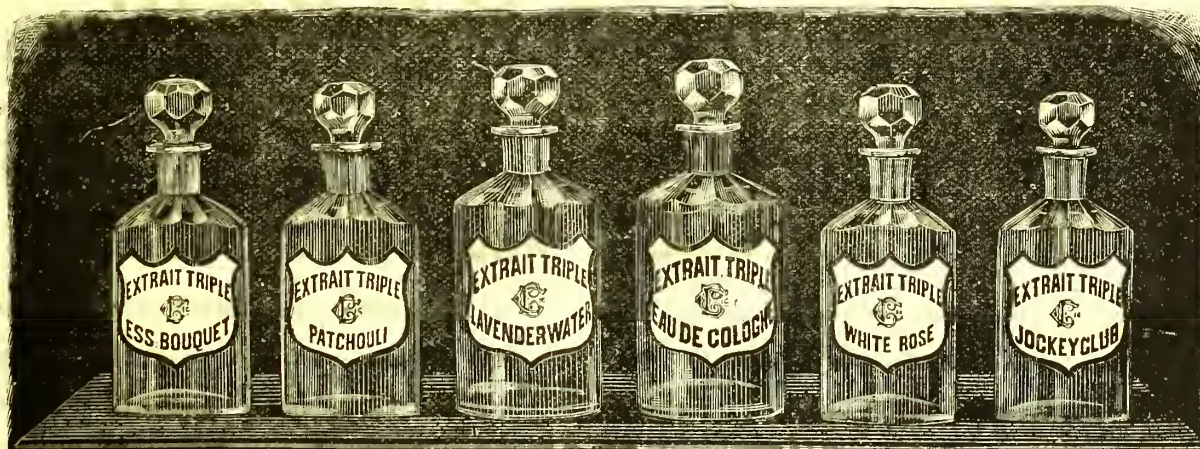
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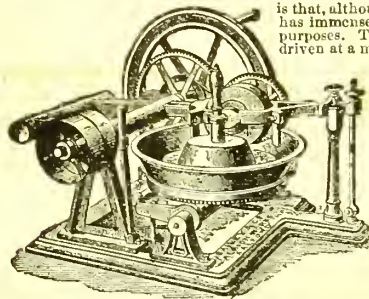
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NOTICE.—CAUTION.—The success of Fellows' Hypophosphites has prompted certain persons to utter substitutes Mr. Fellows, having examined several of these, finds no two samples identical, and all differ from the veritable, in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, in the property of retaining the strychnine in solution, and in the medicinal effects.

SPECIAL NOTICE.

Lest any Members of the Medical Profession may be misled by the many specious advertisements of imitators of Fellows' Syrup of Hypophosphites, Mr. Fellows begs to publish the following, viz.—

That he is the sole inventor of the formula of Fellows' Compound Syrup of Hypophosphites, which was discovered and prepared for the first time for his own use in 1865, when out of health;

That the testimonials bear date from the year 1868;

That the genuineness of the early testimonials was certified by Aaron Alward, Esq., M.D., Mayor of the City of St. John, Province of New Brunswick, Canada, and the great seal attached on 6th February, 1868; and

That the formula of the Syrup has never since been changed.

Mr. Fellows therefore refers to the printed form surrounding every bottle, where the letters may be found in detail.

As cheap substitutes are frequently dispensed instead of the genuine, Mr. Fellows can only advise that his Syrup should be prescribed in the original bottles, 4s. or 7s., where the distinguishing marks will prevent imposition.

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LANOLINUM PURISS. LIEBREICH.

Messrs. Benno Jassé & Darmstaedter's New Lanoline Works are now in full working order, and the product manufactured on a larger scale is of greatly improved appearance. *It is of much lighter colour, and almost free from odour; is perfectly neutral, and guaranteed chemically pure. It is now also of suitable consistency for Ointments, and no longer requires the addition of Lard.*

The quality hitherto supplied we are now offering at a Reduced Price for the manufacture of Cosmetical preparations.

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The only Filter approved and used by the

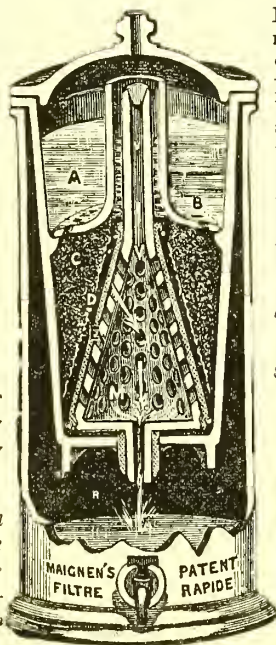
WAR OFFICE.

Five Medals, International Health Exhibition, London.

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The only Filter recommended by the Sanitary Authorities.

Full Particulars and Prices in Pamphlet "Water, Preventable Disease, and Filtration," sent post free on application to



Is guaranteed to remove all germs of disease and impurities in solution, such as sewage and lead. Can be cleansed easily and the Filtering Medium renewed.

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The Author and Patentee,

P. A. MAIGNEN,
32 St. Mary-at-Hill,
LONDON, E.C.

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PATENT

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POWDER,

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Two Prize Medals, International Health Exhibition.

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Patentee—P. A. MAIGNEN,
32 St. Mary-at-Hill, LONDON, E.C.



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Literary Contents.

PAGE	PAGE
Albumen in Urine, Tests for .. 15	Lectures on Galenic Pharmacy. By Professor Redwood. (Il- lustrated) .. 6
Australian Vegetation. Lecture by Mr. Bosisto .. 11	Metropolitan Reports .. 2
Company, New .. 8	Notes on Novelties .. 4
Correspondence:—	Patents .. 22
Curious Breakages .. 28	Personalities .. 19
Dispensing Notes .. 32	Pharmacopœia, British, Austr- lian View of .. 14
Cultivation of Medicinal Plants .. 23	Photography and the Chemist and Druggist .. 8
Practical Notes, Queries, and letters on various sub- jects .. 23-32	Prices Current .. 26
Editorial Notes:—	Provincial Reports:—
Viscous Mixtures .. 16	Birmingham .. 2
Dentition and its Treatment; Congress of Chambers of Commerce; Ancient Al- chemist's Laboratory .. 17	Barnard Castle, Chester, Leamington, Liverpool, and Nottingham .. 3
Scientific Farming; An Im- proved Business Spirit; Curious Breakages .. 18	Seaford and Wolverhampton .. 4
Foreign and Colonial .. 5	Royal Holloway College (Ilus- trated) .. 20
French Correspondence .. 19	Trade Marks Applied for .. 23
Gazette .. 23	Trade Notes .. 10
	Trade Report:—
	Mining Lane .. 24
	New York .. 25

PUBLISHER'S NOTICE.

WE offer an excellent opportunity for distributing circulars to the trade with our issue of July 31. A circular printed to the size of our pages, on white or tinted paper, can be stitched up with THE CHEMIST AND DRUGGIST on that occasion, and distributed to druggists in all parts of the British Empire. We shall require to be supplied with 11,000, and our price for circulating these will be found to be less than one-third the cost of postage alone, while much greater permanence and effect may be looked for.

The Week.

THE MEDICINES WE DISPENSE.—In commenting on our analysis of 10,000 prescriptions the *Canadian Pharmaceutical Journal* says:—"A most remarkable feature is the relatively small number of proprietary articles, intended for physicians' use, but apparently little favoured by the English prescriber. This class includes all the syrups, coated pills, chlorodynes, extracts, pepsines, foods, and even perfumes, eau de cologne, and all such like preparations, but, despite the comprehensive classification, the total only reaches 7 per cent. of the whole. This branch of a druggist's trade would amount here to a much larger figure, as loyalty to the Pharmacopœia is lessened by proximity to the United States and the powerful influences of persistent advertising and personal canvassing." It is comforting to the British pharmacist to know that the case is so.

THE DEPUTATION of Scottish members of the Pharmaceutical Society is to meet the Council in Bloomsbury on Wednesday next.

MR. BOSISTO'S LECTURE ON AUSTRALIAN VEGETATION on Monday night was greatly appreciated by a large audience, who listened attentively and respectfully while he spoke. Sir Graham Berry is an excellent chairman, and was well received. We give a full report of the lecture.

OUR TEN THOUSAND PRESCRIPTIONS.—The *Western Druggist*, in its remarks, says that "a surprising fact is the small proportion of morphine or opium preparations employed compared with similar returns from this country, for which our transatlantic brethren deserve to be congratulated. On the other hand, from the preponderance of aperients and sedatives appearing on the list, the inference may be drawn that John Bull's reputation for being a high liver is not altogether unfounded." Our contemporary thinks that our "classification into applications, draughts, and drops may well have been discarded, as these forms are not recognised in scientific pharmacy." Scientific pharmacy in this country recognises anything which the physician prescribes and which patients pay for.

YEAR-BOOK OF PHARMACY.—We have received a copy of the general index of the year-book, which covers all the volumes from the beginning. The volume is uniform with the year-book, and will prove very valuable for reference. The compilation, which must have entailed much labour and patience, has been made by Mr. F. Passmore, and the result is altogether satisfactory.

THE HALF YEAR'S FAILURES.—Mr. Richard Seyd, F.S.S., has sent us his half-yearly report on the failures of this year up to June 30. So far they number altogether 2,919, of which 286 are in the financial, wholesale, and manufacturing branches of trade, and 2,633 in retail trade, professional pursuits, builders, publicans, among the working classes, &c. In the first half of 1885 the total reached 2,599, of which 299 were in the wholesale, and 2,300 in the retail classes, &c. Of wholesale druggists, 6 have failed in the past six months, against 4 in the first half of 1885; and 20 retail chemists have figured in bankruptcy courts, against 15 in the corresponding period last year. Mr. Seyd adds:—"The number of official bankruptcies only presents an inadequate statement of the actual failures which have taken place, and does not include private arrangements, which have been very numerous, although it would be impossible to give the exact figures."

THE REDWOOD TESTIMONIAL.—When shall we hear again of the progress of this fund?

THE PHARMACEUTICAL CONFERENCE.—The Leamington pharmacists offer to entertain 150 members of the Conference to luncheon on the excursion day. This is very kind of the Leamington chemists, but it offers an excellent opportunity for the Executive Committee to put into force their very proper self-denying ordinance.

THE EVENING FETE at the Botanic Gardens on Wednesday was as brilliant as fine weather, beautiful flowers, brilliant toilettes, music, coloured lights, and ten thousand visitors could make it. But it lacked the patronage of any scion of royalty, and will therefore be repeated on Wednesday evening next, when the Duke and Duchess of Kent may be expected to attend.

DIARY FOR NEXT WEEK.

Monday, July 5.—Colonial and Indian Exhibition. Conference on "Oils, Oil-seeds, and Perfumery," in Indian Economic Court, at 3 P.M. Paper on "Trade and Commerce of Queensland," by Mr. R. L. Nash, at 8.30 P.M.

Tuesday, July 6.—Public sales of Drysalteries at the Commercial Sale Rooms, at 1 P.M.

Wednesday, July 7.—Colonial and Indian Exhibition. Conference on "Dyes, Mordants, and Pigments," in Indian Economic Court, at 3 P.M.

Public sales of Spices at the Commercial Sale Rooms, at noon.

Evening Fête (repeated) at Royal Botanic Gardens at 8 P.M.

Thursday, July 8.—Public sales of Drugs at the Commercial Sale Rooms, at 10.30 A.M.

Saturday, July 10.—Cricket match at Eton and Middlesex Ground. Pharmaceutical v. Maurice.

Metropolitan Reports.

MISS MAUD MARTIN'S EVENING CONCERT.—"By kind permission of Mr. and Mrs. Michael Carteighe," a large and fashionable company assembled at their residence, 36 Nottingham Place, W., on Saturday evening last, on the invitation of Miss Maud Martin, who submitted an excellent programme for their delectation. Miss Martin was assisted by Mdlle. Ellena Lamiriaux, Miss Adele Myers, Signorina Italia Orlica (of Covent Garden), Madame de Sandon, and Miss Sophie Tuesky; also by Signors Gennaro Bisaccia, Bonetti, and Ricci, Messrs. Charles E. Ellison (of Mr. Carl Rosa's company), Hodson Meyrick, and Chevalier Talmieri, who along with Signor Bisaccia acted as conductors. The company began to assemble shortly before nine o'clock. A duetto ("Crudel perchè," *Mozart*), the first item on the programme, was excellently rendered by Miss Martin and Signor Bonetti. The other parts which fell to Miss Martin were a song, "As when the snowdrift," and "Oh, quali mi risvegliano." Miss Martin is gifted with a sweet voice, which is just of sufficient volume for chamber concerts, and the delicate manner in which she rendered "As when the snowdrift" called forth very hearty applause and more floral favours than she could comfortably carry. In the serenata she was accompanied by Mdlle. E. Lamiriaux on the violin. This young lady had previously given proof of her ability in a "Fantaisie Caprice." Though she is just emerging from girlhood, Mdlle. Lamiriaux's bowing is characterised by great strength and vigour, and she gave an exquisite example of fingering in the fantasia. The whole programme was very enjoyable. We may explain that Miss Martin is a daughter of Mr. T. C. W. Martin, the well-known London representative of Messrs. S. Maw, Son & Thompson, and the faithful and indispensable M.C. of the chemists' balls.

CROYDON.—Mr. E. N. Grimwade, J.P., of St. James's Lodge, Croydon, a well known London wholesale druggist, was invited by the executive committee of the Liberal and Radical Association to stand as a Gladstonian candidate in opposition to Mr. Sidney Herbert (C.), but having declined the Liberal and Radical Six Hundred, resolved not to contest the borough.

CRICKET. PHARMACEUTICAL v. FERME PARK. Return match played on Saturday last at Tufnell Park.

Pharmaceutical.			Ferme Park.		
Williams, c. Stuart, b. Evans ..	3		Simmons, c. and b. Lucas ..	1	
Mowatt, b. Stuart	0		Howe, b. Lucas	0	
Jones, D. b. Stuart	0		Phoenix, b. Aston	13	
Aston, c. Stuart, b. Evans ..	8		Evans, b. Aston	1	
Wright, b. Stuart	0		Anderson, stumped Wright, b.		
Greenfield, b. Carman	10		Williams	5	
Lucas, b. Evans	31		Stuart, c. D. Jones, b. Williams	14	
Jones, G., b. Phoenix	3		Robinson, b. Aston	4	
Davis, b. Evans	2		Carman, not out	5	
Holder, not out	0		Lamb, b. Aston	0	
Glass, b. Phoenix	0		Watson, b. Aston	2	
Byes 10, wides 1	11		Robertson, b. Aston	0	
			Byes	11	
Total	68		Total	56	

A TEETOTALLER'S FATAL MISTAKE.—Dr. Westcott held an inquest on Tuesday on the body of John William Harris, aged sixty-three, a cab proprietor of Edgware Road. The widow of the deceased stated that he had been a teetotaler for a number of years. Some months ago he attended a temperance lecture, and it was there stated that ammonia was the best substitute for alcohol. As he had a severe pain in the chest he thought he would take some. There was no trouble in getting it, as they always bought a quantity from an oil shop to make up for oils for the horses. He took a tablespoonful, which took his breath away, and she then fetched a doctor. Dr. Norman Kerr stated that he was called in to see the deceased on April 5, and found him in great agony, the mucous membrane being quite destroyed, and on Sunday night he succumbed to the effects of the poison. The widow said her husband did not think it was poison, as one of their horses took some by mistake about two

years ago, and was alive now. The jury returned a verdict of accidental death.

THE PRUSSER ROBERTS DRUG COMPANY, of Church Street, Camberwell, and North End, Croydon, send us a price-list for retail customers, of which they say they are circulating 10,000 in Croydon and 10,000 in Camberwell. This price-list contains 112 pages, and there is evidence in many pages of some intelligent work having been put into the compilation. But the aim to be all things to all men makes a little confusion. On page 1 we find a high-toned address to the medical profession, concluding with the sentence, "Bearing in mind these facts, we desire to impress upon the public mind and the faculty our determination never to prescribe under any circumstances." It has been explained that the study of pharmacy does not in any degree fit a chemist to treat disease, and that it is impossible to draw the line between simple and serious ailments, hence the conclusion. And yet scattered through the book we find notes such as this: "Extract of rhamnus frangula liquid—dose, 1 to 4 fluid drachms. Useful in case of hemorrhoids; it possesses tonic laxative properties, causes no griping, and even when habitually taken does not need the dose increased." This sort of thing is getting very near to prescribing.

Provincial Reports.

BIRMINGHAM.

BRITISH PHARMACEUTICAL CONFERENCE.—A meeting of the local committee was held at the Grand Hotel, Birmingham, on Tuesday, June 29, Mr. Councillor Barclay in the chair. Several sub-committees were appointed to carry out the necessary arrangements for the forthcoming conference. Messrs. Smith and Barrett (Leamington) attended and formally offered, on behalf of the Leamington chemists, to provide the luncheon at Leamington for 150 members. This offer was discussed at length, but it was resolved to leave the question open until next meeting. A vote of thanks was unanimously passed to the Leamington sub-committee for their very kind offer.

FORTY YEARS at 92 High Street, and ten years at another shop which previously was taken by the railway company, and then retirement from business, has been the experience of Mr. C. Flewitt, whose withdrawal from the drug trade was noticed in your last issue. A few years ago there were six chemists in a direct line of half a mile, namely, Charnwood, Flewitt, Sumner, Jones, Grieves, and Barnett, now only "Stirling Grieves" remains. Mr. Flewitt was a good specimen of the old genuine chemist, whose numbers year by year are getting less. He had a strong prejudice in favour of a fine drug business to the discouragement of the fancy and other branches, which were quite distasteful to him. In his retirement to "Hirtweight Hall," Wyde Green, Sutton Coldfield, he carries with him the respect of his fellow tradesmen, and the esteem and good wishes of all those with whom business brought him in contact.

THE EXHIBITION OF BIRMINGHAM INDUSTRIES.—It is reported that the applications for space at the forthcoming exhibition in connection with the visit of the British Association are so considerably in excess of the space at command that it has taken the committee several weeks to consider their individual merits. As only one Bingley Hall is to be filled, and not two, the committee have the invidious task before them of partitioning out the hall to the best advantage. In the process of selection they are animated solely by the desire of making the exhibition as comprehensive as possible, so as to best illustrate all the industries of the town. Some manufacturers are making costly preparations, and the exhibition promises to be unique of its kind.

SPIRITS OF SALTS IN A GINGER-BEER BOTTLE.—William Twigg, aged 39, barnisher, of 40 Wheeler Street, was admitted to the General Hospital on Tuesday last, suffering from the effects of poison. Twigg was drinking some ginger-beer at his house, and near the ginger-beer bottle was another, containing spirits of salts. Twigg picked up the bottle containing spirits of salts by mistake, and drank a quantity of it.

A RECEIVING ORDER in the matter of Ashton Trow Salt, formerly in partnership with Thomas Partridge Salt, Corporation Street, Birmingham, surgical machinist, was made on Monday.

A PETITION FOR A RECEIVING ORDER was filed in the Oldbury County Court on Wednesday by Edmund Lambert W. Bridgewater, of 96 Hill Top, West Bromwich, chemist and druggist.

WM. FREDERICK BIRCH, trading as the Odontobaph Perfume Company, was examined on Tuesday. His affairs were reported as: Debts, 1,240*l.*; assets, 961*l.* In reply to the Official Receiver the bankrupt said he commenced business on his own account in July, last year. He had previously and was then, the local representative of Eskell & Chitty, dentists. The business he started was that of making tooth-paste, mouth-wash, and other preparations of that kind. He had a capital of 1,500*l.*, 1,000*l.* being in cash and the remainder owing by friends for money lent to them. He put the management of the business into the hands of a man named Emil Lehfeldt, who had borrowed 850*l.* from him on bills. Of that 850*l.* only 50*l.* had been paid. Lehfeldt was to have half the profits of the business. E. Jones Chitty, of the firm of Eskell & Chitty, had borrowed 150*l.* from him, of which 100*l.* was still owing, and Chitty said he could not pay it, as he was bankrupt. Two bills produced were acceptances of the Earl of Devon, from whom Lehfeldt had obtained them. They were for sums of 150*l.*, and there was a third bill for 300*l.* The 300*l.* bill was discounted by the bankrupt's brother-in-law, who now held it. The Earl of Devon repudiated the two for 150*l.*, on the ground that the 300*l.* was a renewal of them. The cash received for the 300*l.* bill was paid into the Odontobaph Company. He took Lehfeldt into his employment because he thought him a sharp business man, and hoped to be able through him to sell his preparations and also obtain payment of the money he had lent him. The examination was adjourned for the production of some books.

IN RE JOSEPH GUEST EARP, of 28 Cheapside, oil and colour merchant (before Mr. Registrar Parry). On the application for discharge (debts, 685*l.*; assets, 123*l.*) the Official Receiver reported that he expected to pay a dividend of about 2*s.* in the pound. Discharge was suspended for three months.

MARRIED.—On June 24, at Edgbaston Parish Church (by the Rev. John Canning), Henry A. Russon, chemist, Edgbaston, to Katherine Grew (Kate), third daughter of James Stokes, Lichfield Street, Walsall.

A CHEMIST'S ELECTION WIT.—This morning, says a *Birmingham Post* gossip, I was walking, at a preternaturally early hour, down Monument Road, before the shops had opened, when I saw in a chemist's window an announcement of some kind that had from across the road a novel appearance to me. The ground was evidently black velvet, and on it were raised letters of a curious and rather pleasing ivory-yellow colour, shading into deeper yellow, and brown. I crossed the road to see what it could be, and found that the letters had been ingeniously made of human teeth, most of them double-fanged back-teeth, that it must have cost the original owners a groan to part with. The legend formed by these letters read as follows:—

Here are the achers;
Where is the cow?

BARNARD CASTLE.

THE YEAST TRADE AND ITS SECRETS.—At Barnard Castle Courthouse on Wednesday last, Wm. Alfred Hall, of that town, was fined 5*s.* and costs for selling impure yeast. A similar charge against the manager of the Middleton Co-operative Stores was professionally contested, Mr. Stock, of Darlington, giving evidence for the police, and two Hull gentlemen—the one an importer and the other a public analyst—appearing for the defence, which was that the 10-per-cent. admixture of farina was necessary for preservation, a union of Continental makers, who retained their own analyst, imposing a fine of 1,000 guilders upon a member who was discovered making yeast with more than a 10-per-cent. admixture. It was further contended that, without this preser-

vative admixture, the foreign yeast would not be merchantable on its arrival in this country. The Hull analyst said the yeast ("superior circle") as sold by defendant was not adulterated. Fined 5*s.* and costs.

CHESTER.

DEATH OF MR. WILLIAM GRINDLEY.—We record with regret the death of Mr. William Grindley, of this city, which took place on Sunday last, June 27, at his residence, Lumley Road, after a long and very painful illness. Mr. Grindley was the principal partner in the old-established firm of Messrs. Grindley & Son, chemists, and he was for many years the local secretary of the Pharmaceutical Society, a position which he resigned some few years ago. Mr. Grindley was forty-six years of age, and was greatly and widely respected.

LEAMINGTON.

SINGULAR CASE OF POISONING.—One day this week two boys, oppressed by the heat, drank from a hand water-cart used for the streets. Both became seriously ill, and one, Charles William Harvey, died. The other, Robert Henry Summers, is still seriously ill. It appears that carbolic acid had been put into the water for sanitary purposes.

LIVERPOOL.

MUSPRATT'S CHEMICAL WORKS.—The rumours which have been industriously circulated during the last few weeks to the effect that the proprietors of one of the oldest chemical manufacturing concerns were about to convert their property into a limited company have proved to be true. Ere we have ceased to talk about the founder of the English alkali trade, comes forth the official announcement that the old names will in future figure in a modernised style. Muspratt Brothers & Huntley (Limited), alkali manufacturers, capital 200,000*l.* in 10*l.* shares, is, we believe, the registration style. The change is discussed here with interest, the general feeling being that if there is anything in chemicals, the Muspratt shares ought to be worth having. It is true that the trade appears to be passing through a transitional period, through a time of adjustment, when all along the line, from the raw material to the marketable article, there is an adjusting of prices on the "low" basis. Still, with the demand for chemicals there is surely money yet to be made in the trade, and with the experience of the old firm the new company start under excellent auspices.

UNIVERSITY COLLEGE, LIVERPOOL, continues to find warm friends among the merchant princes of the city. One of its last donors has been Mr. George Holt, who has lately placed the sum of 2,000*l.* in the treasurer's hands in order to provide two medical scholarships of the value of 100*l.* each, for the next ten years; the scholarships to be tenable for one year.

THE CHEMICAL LABORATORIES of the University, which were formally opened on March 21 by the Earl of Derby, and which will have cost upwards of 15,000*l.*, are now being supplied with their finishing touches, in the shape of minor apparatus and fittings. At a recent meeting of the Laboratories Building Committee a sum of 30*l.* was voted for the purpose of an electric light cable, and sundry electric bells and fittings. A slight difficulty arose respecting a dynamo for bringing the electric lighting system efficiently into operation, but after some discussion the matter was set at rest by a generous action on the part of Mr. Holbrook Gaskell, who placed 50*l.* at the disposal of the committee to cover the expense of providing one suitable for the work. Messrs. Gaskell, Deacon & Co. had already given 1,000*l.* towards providing a supply of apparatus.

NOTTINGHAM.

A DRACHM OF OPIUM.—An inquest was held at the East Croft on Wednesday on the body of Lucy Mann, aged about 42 years. Evidence was adduced which showed that deceased was healthy but intemperate, and had threatened to drown herself. Frederick Albaria, assistant to Mr. Norweb, chemist, Fishergate, said the deceased came to the shop on Monday morning and bought a drachm of opium, which she

said she wanted for toothache. A public-house barman said the deceased came into his inn on Monday morning and purchased half a pint of ale. She sat down and drank it, and for the half-hour she was in the public-house she appeared to be in a very drowsy condition. She became unconscious at last, and had to be assisted home. Dr. H. O. Taylor stated that his assistant attended deceased on receipt of a message. Witness went shortly afterwards, and found the woman in a state of collapse, and she died from opium poisoning. The jury, after some hesitation, returned a verdict that "Deceased poisoned herself with opium whilst in an unsound state of mind."

WOLVERHAMPTON.

FATAL ACCIDENT FROM VERMIN-KILLER.—A little girl died here on Wednesday from vermin-killer poisoning. She had eaten a piece of bread and butter upon which the poison had been spread for the purpose of killing rats.

SCOTLAND.

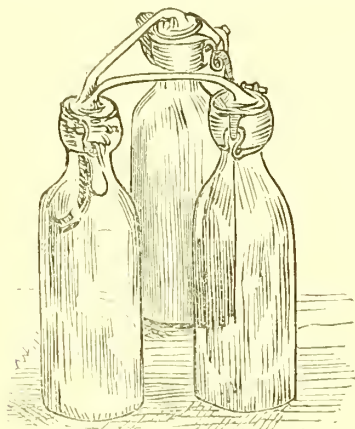
ALLEGED BREACH OF TRUST.—On Monday, June 21, a groom in the employment of Mr. Elliot, chemist, Berwick-on-Tweed, left that place with a horse and pony belonging to his master in order to come to Edinburgh to have them sold. He got as far as Dunbar on Monday night, and there sold the pony, afterwards proceeding to Edinburgh, where he duly delivered the horse at Moir's stables. Nothing, however, has been heard of him since, and the matter has now been placed in the hands of the police.

STRATHPEFFER SPA.—We understand that the business carried on last season by Messrs. Allen & Hanburys at this place has been transferred by them to Messrs. Galloway & Son, of Inverness. This, we think, is as it should be; but we hear that the opening had been offered in the neighbourhood and declined before Messrs. Allen & Hanburys were asked to take it up.



A GAZOGENE SUBSTITUTE.

THE *Druggists' Circular* gives a description of the "Avery Household Soda-water Machine," as it is called, an apparatus patented in the United States by Professor Charles Avery.



The machine consists of two or more (preferably three) stout flasks or vessels, essentially cylindrical, and preferably several diameters long, arranged as a group, connected by temporary connections of tubes for the transmission of gas, the tubes passing through stopples or caps readily removable, and made tight by suitable washers.

During the reaction these flasks lie upon their sides, so as to cover the caps or stopples with liquid.

In the illustration the lower flasks receive the water, milk, cider, or other beverage to be charged: these are then capped. The upper flask receives a charge of the powder used and of water, and is then capped.

The powder used (this is the chief novelty) is bicarbonate of lime. This salt, in water at a temperature of, say, 80° Fahr., decomposes, and the pressure slowly rises to a maximum of 75 lbs. to the inch, and there is self arrested. If the liquid to be charged absorbs the gas, more is generated; if not, the evolution stops until it is absorbed and the pressure reduced.

After the charging is over the entire apparatus may be cooled in the ice-chest or well. The smaller-sized apparatus shown charges two one-pint bottles, or a quart in all, at a cost of 1½c. to the consumer.

The larger size charges one half gallon at a time. In this size much or little may be drawn at a time, and as soon as the pressure falls by liquid drawn off, more gas is evolved to supply the loss and maintain the strength.

The price of the two-pint machine is given at \$3, and that of the half-gallon machine \$5.

LANOLINE CENTRIFUGATED TOILET SOAP.

THE fortunate proprietors of lanoline are following with commendable closeness the examples which have been set them by the discoverers of other ointment bases, and "lanoline cold cream," "lanoline pomade," and now "lanoline centrifugated toilet soap" have budded on the parent stem. These all offer convenient means for conveying to the skin the virtues of lanoline, which we need not here indicate. The soap is an excellent article, very neatly turned out; the term "centrifugated," which is a troublesome addition to the title, implies that the soap has been manufactured by the centrifugal process, which is now somewhat popular in Germany, and which, it is said, renders adulteration with rosin impossible. The toilet soap field is pretty well crowded just now, but it is likely that this new competitor will find room to live and grow.

QUARRIE'S PATENT BOTTLE.

THIS is an ingeniously designed bottle for the purpose of keeping such effervescing substances as seidlitz powders dissolved and ready for drinking at any moment. The bottle is triangular in shape, and a bulb is blown in the middle of the neck, which therefore consists of one wide and two narrow portions, and the stopper is so ground that the bottom third closes the bottle, and the upper one has two grooves half-way up corresponding with similar grooves at the top of the neck, thus permitting free access to the bulb. The alkaline powder is placed in the bottle, dissolved in water, and the stopper inserted. The acid is then dissolved in a drachm or two of water, and poured through the groove into the bulb. A slight turn of the stopper excludes it from the air, and the contents can be kept for any length of time without mixing. On withdrawing the stopper, effervescence at once ensues. The Manx Shrub Co., Douglas (I. M.) are the makers.

AN ANTI-SNORER.

MR. WILLIAM TOOGOOD is sole wholesale agent for a patented article described as "John Tucker's Patent Elastic Belt." The appliance is simply an indiarubber cup, which forms a chin rest, and to which is attached an elastic and tape bandage, whereby it, and consequently the lower jaw,

are held in position. It is impossible to snore with the mouth shut, and no doubt an open mouth during sleep invites affections of the throat and the bronchial tubes. The inventor states that he relieved himself of dyspepsia and a long train of evils by the aid of this contrivance, his physician having told him that if he could only keep his mouth shut during sleep he would cure himself. But it is likely that the popularity of the invention will depend mainly on its anti-snoring virtues, and in this respect it may be expected to be a success. The price at which it is sold, however (7s. 6d.) is very high for such a simple arrangement, and will, we should think, seriously interfere with the sale.

Foreign and Colonial.

DR. DON JOAQUIN CHILLIDA Y MELIÁ, late editor of the *Revista Medico Farmaceutico*, of Castillon, is dead.

DR. HUPPERT has been appointed to lecture on chemistry in Prague, in succession to Dr. Linnemann (the discoverer of Austrium), recently deceased.

THE FRENCH "NATIONAL SOCIETY," a body formed to develop and improve all French industries, is engaged in organising an international exhibition in the "Palais de l'Industrie." The exhibition will be opened next month, and will close in November. M. A. Muzet, municipal councillor of Paris, is chairman. Full particulars may be had from the "Administration," 27, Rue Saint-Marc, Paris.

WOOD OIL is now made on a large scale in Sweden from the refuse of timber cuttings and forest clearings, and from stumps and roots. Although it cannot well be burned in common lamps on account of the excessive amount of carbon it contains, it furnishes a satisfactory light in lamps specially made for it, and in its natural state is the cheapest of all illuminating oils. Thirty factories produce about 40,000 litres of the oil daily.

A NEW SOURCE OF BRANDY is said to have been found by a botanist of Pondicherry, who has discovered that the pulp which covers the poppy seed contains saccharine matter which, after fermentation and distillation, produces a kind of spirit of brandy of an agreeable flavour. As this pulp has hitherto been thrown away, this discovery affords poppy planters an opportunity of realising some more profit from their crops.

SPONGE-RAISING in the waters of Long Island Sound (United States) is likely to become an important industry in the near future. It is believed that sponges of ordinary quality may be grown at a profit. The frequency with which several varieties of native sponges are found has induced some scientific men to plant young sponges from Florida waters off Stratford Point, where there is a long reef of submerged rocks of a nature suitable for sponge growing. The transplanted sponges have lived and flourished rapidly, growing to the size used in commerce.

NEW FIRMS.—*Bellmann & Muchlemeyer*, Plagwitz, near Leipzig, drugs. *Rudolph Pflug*, Plauen, Germany, drugs. *Carl Fritzsche*, Goerlitz, Germany, drugs. *Oscar Lindner*, Chemnitz, drugs. *C. Lemit, Grandière & Hurbin*, Montreuil-sous-Bois, France, pharmaceutical products. Deed of May 11, 1886; term, nine years; capital, 30,000f. *J. Rousseau & Banzain* (late *J. & A. Rousseau & C. Banzain*), Nantes, France, drugs and glassware. Deed of May 12, 1886; term, six years; capital, 140,000f. *Rausch & Feer*, Nantes, France, distillers of essential oils, &c. *Georg Ebinger*, Wuerzburg, Germany, oils and varnishes. *W. Doerfler*, Rathenow, Germany, drugs and dyestuffs. *A. Koslowsky*, Gleiwitz, Germany, drugs. *Pflanzenleim, fabrik Speyer, Finckh & Co.* (Carl Otto Finckh, managing director), Stuttgart, manufacturers of vegetable glue. *Meynier & Co.*, Paris, Rue Baudin, 19, chemicals. Deed of May 24, 1886; term, six years; capital, 110,000f.

THE FAMOUS AM ENDE POISONING CASE is to be reopened in the New Jersey courts, and it is claimed that the

new trial will bring to light hidden facts that will make it of intense dramatic interest. Ever since the tragic death of the two young girls, through the alleged mistake of the druggist in putting up morphine powders for quinine, gossip has been busy discussing the affair, and strange rumours have been set afloat. It will be remembered that Mr. Am Ende was charged with dispensing morphine for quinine. The deceased young ladies belonged to a wealthy family, and the symptoms of morphine poisoning seemed so very clear that no post-mortem examination was made. The trial was for causing the death of the older lady, Miss Margaret Holz. The case against Mr. Am Ende for causing the death of the younger sister has not yet come to trial. A new trial is asked for on behalf of Mr. Am Ende, on the ground, as stated by the *Pharmaceutical Record*, "that Mr. Am Ende is absolutely blameless in the matter; that he dispensed the prescription exactly as called for, and that the death of the patient was caused by the medical treatment in the one case that was brought to trial."

CARLSBAD WATERS.—The municipal authorities of Carlsbad, Austria, have issued the following announcement:—"Whereas the contract existing between the present lessee and the municipality of Carlsbad for the exploitation of the Carlsbad mineral water and spring-products (sprudel-salt, spring-salt, sprudel-brine, sprudel-brine salt, sprudel-pastilles, and sprudel soap) terminates on December 31, 1886; the municipality intend to dispose of the lease for another period of fifteen years, viz. from 1886 to 1901. Offers in writing must be addressed to the Stadtrath (Town Council) of Carlsbad, under cover bearing the words 'Tender for the Carlsbad Mineral Water exploitation,' and a distinctive mark, and will be received until July 22. A guarantee for 20,000 fl. ö.w. (about 1,650l.) in cash must accompany the tender in a separate envelope, bearing the same distinctive mark. Offers and securities will be retained by the Town Council until a decision has been arrived at, but the authorities reserve to themselves the right of accepting or refusing any offer.

The *Pharmaceutische Zeitung*, commenting upon the subject, mentions that the lessee will be bound to maintain the price in Carlsbad at 22 kreutzer, or 5d., per bottle, but that considerable facilities are allowed so far as the export is concerned. The lessee must deliver to the municipal authorities 10,000 bottles per annum for charitable purposes, this amount being increased to 30,000 bottles annually during the last three years of the lease. The exploitation of the Carlsbad springs in its present form is of comparatively recent date, but long before it was turned into a commercial undertaking occasional presents of sprudel were made to non-residents, but only to personages of exalted rank. These presents were looked upon as high favours, and the right to dispense them was vested in the reigning prince, a return present to the town being expected of the receiver. Thus, during the reign of the Emperor Charles VI., presents of Carlsbad water were made to the Marchioness Augusta of Baden, to the Marquess Frederic of Brandenburg, to the Crown Prince, afterwards King Frederic II. of Prussia, &c. &c.

We regret to say that smuggling also was rife in the good city of Carlsbad, and several worthy citizens were mulcted in fines or cast in prison for surreptitiously abstracting the famous waters. The present century was well advanced when a more than usually long-headed city father conceived the idea of making the Carlsbad springs financially remunerative by exporting the waters; but the citizens, fearing that by allowing the waters to be sent out of the town visitors might be kept away, offered a determined resistance to this project. In the year 1844 the exploitation of the springs was leased for the first time at an annual payment of 500 florins (50l.), in 1847 5,000 florins per annum was paid for the lease, next 7,000 florins, and in 1886 a new lessee, Mr. H. Mattoni, contracted for ten years at 14,000 florins per annum. At the expiration of his lease, the firm Loebel Schottlaender acquired the monopoly at 70,000 florins per annum, and, after having held it for three years, offered 100,000 florins per annum for an extension of the lease, while an English company bid 120,000 florins. It should be borne in mind that the exploitation is mainly rendered remunerative by the immense consumption of the spring-products, especially the sprudel-salt, the sale of which alone is said to have recouped lessees for their expenditure.

LECTURES ON GALENIC PHARMACY BY EMERITUS
PROFESSOR REDWOOD.

LECTURE IV.

The Preparation of Tinctures by Maceration and Percolation.

THE process of maceration for the preparation of tinctures offers temptation for imperfect work. Where the quantities so made are not large, portions are frequently poured off as required; the dregs are allowed to accumulate, and are not pressed off until after repeated makings, when there is sufficient accumulation to be worth putting into the tincture press.

The maceration process is not completed until the whole of the official instructions have been fulfilled. The reason is obvious. In making tincture of bitter orange peel the solid and liquid ingredients are put together and macerated for seven days. Now let them be put by on a shelf, and not shaken. The vegetable matter in coarse powder consists of masses of various sizes of tissues, which are porous and absorbent.

The liquid thus absorbed exerts its solvent action on all soluble matter with which it comes in contact. The liquid surrounding and filling the spaces between the various masses likewise exerts a solvent action, and, forming a denser solution than the liquid in its original state, remains in and around the solid matter. This saturated solution is incapable of dissolving more, though the solid matter may not be yet exhausted, and the upper liquid, not having been brought in contact, has yet done nothing.

What alteration can be effected? How can the two liquids mix, or change position, so that the uncharged liquid may have a chance of doing some work?

Two modes of action are available and legitimate—liquid diffusion and mechanical agitation. The first, to some extent, must always be in operation, for it is a law of nature. Certain constituents of the denser liquid will spontaneously move towards, and pass into, the uncharged or less charged liquid. This will account for the slight coloration seen in the upper portion of the tincture of kino exhibited during the last lecture.

But as regards tinctures, liquid diffusion is extremely slow in its operation, and of little practical use. It is, however, the only force by which the solution formed within the vegetable pores can be drawn out from their capillary tubes and fissures. It is always ready to act under favourable circumstances, but there is no such thing as diffusion between two equally charged liquids of the same sort. There cannot be diffusion between the charged liquid within and outside the solid masses. Hence the necessity for the occasional agitation enjoined.

But even with agitation the masses still retain, especially at the end of a short maceration, a more highly charged solution than that on the outside.

Some of the strongest part of the tincture remains in the unpressed solid matter, and must be got out by expression and added to the other part. To proceed otherwise is a defective and bad mode of operation. The process of maceration for the preparation of tinctures is at once the oldest and the simplest; it is the easiest to perform, and the one most likely to have its essential details omitted. In careful and experienced hands it may yield good results.

Many methods have been suggested either to improve or supersede the process.

In 1844 Dr. Barton, one of the physicians of St. Thomas's Hospital, made a number of experiments with a view of improving maceration, which, he considered, when properly conducted, better than percolation. He proposed that the solid ingredients should be enclosed in a calico or flannel bag and suspended in the

upper part of the liquid, similar to Alsop's plan for infusions. Mechanical agitation was obviated and automatic circulation established. The impediment to the adoption of the process

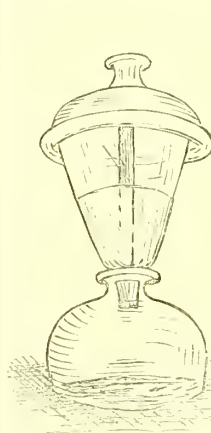
was the want of a suitable vessel, as there would be a loss of spirit by evaporation in an ordinary apparatus.

Percolation or Displacement.—The process was first introduced by Boullay, of Paris, in 1833. It was noticed but not described in the Edinburgh Pharmacopœia of 1839, and was brought prominently under English notice in 1841 by the late Mr. Henry Deane.

Meanwhile it had been warmly advocated by Soubeiran and the French pharmacists, and in America.

The process has become firmly rooted in the United States, having been introduced into their Pharmacopœia in 1840, and the Americans have made it a speciality. In France it has lost ground; in Germany it has never met with favour; and in England it has enjoyed varying approval, being now official in combination with maceration.

The terms percolation and displacement are not synonymous, but distinct. When solid matter, a part only of which is soluble in a certain menstruum, has to have this soluble matter removed by such menstruum, the latter is made to percolate through the solid substance in a more or less finely divided state. The whole of the liquid broken up into minute fractional parts has to traverse a vertical column of comminuted solid matter. Every globule of liquid rubs against and acts upon every grain of solid, and, descending to the bottom, escapes in a saturated condition. Every particle of solid matter is brought into contact with the liquid, so that those near the top of the bed will speedily have given up all they are able to impart to the solvent.



GILBERTSON'S PERCOLATOR.



YORK GLASS CO.'S PERCOLATOR.

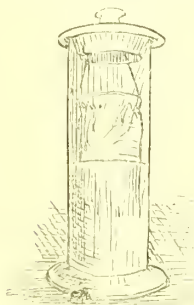
If the quantity of liquid to be used is indefinite, as in the case of aqueous extraction, the process is more effectual than maceration, and is true percolation.

In the preparation of tinctures it often happens that there is a definite quantity of menstruum, that the product must be uniform and definite, and possibly in the highest state of concentration.

If the whole of the soluble matter has to be taken up by the smallest quantity of menstruum, it may be necessary to leave the solid and liquid ingredients together for a sufficient time for solution to take place—rarely a maceration of more than a few hours, often less, is required.

Strong tincture of ginger made double strength will form a good illustration. Ten ounces of well-packed powdered ginger will absorb about 10 fluid ounces of spirit. Allow this to percolate down until it has all disappeared, leave for a couple of hours, and it will have dissolved all that is soluble. How shall we recover the whole of the strong tincture? Expression would yield, at the most, about two-thirds. We place another 10 ounces of spirit over the mass below, keeping them quite distinct. The spirit so placed will by its gravitating force overcome the force of capillarity, holding the strong tincture in the pores and interspaces of the powder. The spirit displaces the strong tincture without mixing with it, by the force of gravity, which is superior to the opposing force of capillarity. This is displacement.

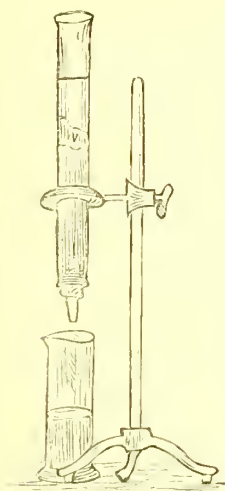
Strong tincture of ginger is the only one in the Pharmacopœia made by simple percolation and displacement. The advantages and difficulties occurring in the process may be studied by illustration and comparison. Ginger in finest



BARTON'S APPARATUS.

upper part of the liquid, similar to Alsop's plan for infusions. Mechanical agitation was obviated and automatic circulation established. The impediment to the adoption of the process

powder is rammed down tightly into the percolator by means of a short round stick. Percolation is not impeded. With powdered jalap this would be impossible. With many substances it is desirable to moisten the powder with some of the spirit in the percolator, because the moistened particles may swell, and the mass become compacted, partly also because some moist powders absorb liquid more readily than when dry, as a moist sponge sucks up water the more easily.



LONG TUBE PERCOLATOR.

Treat powdered rhubarb in the same way as ginger and there is a speedy stoppage to percolation. In the case of jalap the mode of operating must be modified. The powder must not be of the finest, and the packing in the percolator must not be too tight.

Every solid substance requires some modification of detail, which a skilled operator can only learn by experience. This is one of the strongest objections to the general introduction of the process. The necessity for varying the degrees of the comminution of drugs to make them applicable is another drawback. Unless the solid substances can be used in a state of minute and uniform division, percolation cannot be considered a perfectly good process. When in that state more skill and judgment are required than is often possessed by those to whom the preparation of tinctures is usually committed.

As a process to be resorted to in special cases, percolation will always prove a valuable resource to the pharmacist.

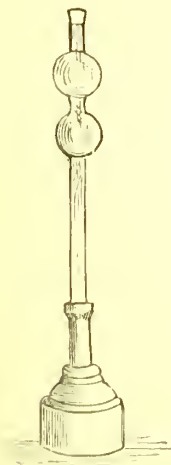
Arguments in favour and against the use of percolation in the preparation of tinctures may be thus briefly stated:—

In Favour of Percolation.

1. Economy of time as compared with maceration.
2. Excellence of product. By lengthened maceration a change may be effected in some of the soluble constituents of the solution first formed, when this is left in contact with the insoluble residue of the vegetable substance.
3. Concentrated state of the product. It is well suited for highly concentrated tinctures.
4. Recovery of the valuable part of the product. This is more complete than by maceration and expression.

Against Percolation.

1. Requires skill and knowledge, only to be gained by experience. In maceration unskilled labour may be applied.
2. Though time occupied in percolation may be short, continuous attention is required.



3. Though a larger proportion of the strong tincture is recovered by percolation and displacement than by maceration and expression, yet in the former case, when legitimately conducted, the last part of the tincture is only recovered at the cost of an equal volume of spirit, which is used for displacement.

4. That to obviate the loss of spirit used for displacement, there is a strong inducement to the use of water, and water is sometimes used as a displacing liquid, which necessarily alters and injures the product.

Here are two bulbs blown into a glass tube; the lower bulb and part of the tube are filled with colourless water, while the upper bulb and part of the tube contain spirit coloured with magenta. The spirit may be kept above the water for days and weeks, no appreciable admixture

taking place. Reverse the relative position, the water being above the spirit, as in a percolator, and complete admixture of the two liquids will take place in a few minutes.

These objections have led to a modified description of percolation, which has become official in this country for more than twenty years, and which it will be my next object to bring before your notice.

LECTURE V.

The Preparation of Tinctures, B.P., and Reibrod's Automatic Process.

Forty-two out of seventy-two official tinctures are made by an essentially British process, which came out with the first edition of that work in 1864.

I know not who was the author. The solid ingredients are to be macerated for forty-eight hours in three-fourths of the spirit used, in a closed vessel, agitating occasionally; transfer to a percolator, and when the fluid ceases to pass continue the percolation with the remaining one-fourth of the spirit. Then subject the contents of the percolator to pressure, mix the liquids, filter, and make up to a definite volume by further addition of spirit. Shortened maceration is combined with percolation in one process. There is less liability to deviate from instructions owing to the limitation of time, and the process is likely to be faithfully conducted.

A more important advantage is gained by the subsequent percolation or displacement. No packing is required, for the solid and liquid ingredients, after maceration, when transferred to the percolator, will settle to the bottom, the supernatant liquid will percolate through the bed so formed, and thus increase the action that maceration had commenced. The solid matter forming a compound mass is entirely fitted for displacement, which is to be performed with the remainder of the spirit. The packing being spontaneous and uniform the results will always be alike for the same preparation. It is more important to have uniformity of product than complete exhaustion of the drug. The exhaustion is satisfactory if sufficient attention is paid to the mechanical details of operation.

A specified and definable state of comminution contributes greatly to uniformity of result.

Different substances require different degrees of comminution. Ginger and cubebæ are used in their ordinary state of powder. Colchicum seeds, hemlock fruit, and ergot are to be finely comminuted. Aconite, arnica, cascarrilla, cimicifuga, and about fourteen other drugs are to be in No. 40 powder; while belladonna, buchu, and three others are to be in No. 20 powder. Soft herbaceous substances, such as belladonna, digitalis, and hyoscyamus, are used in the coarser No. 20 powder; while harder woods and barks are in No. 40 powder. Rhubarb, a hard root powder, used as No. 20, is an exception because not easily percolated. Calumba containing much starch, chiretta, and gentian, because aromatic, are not powdered.

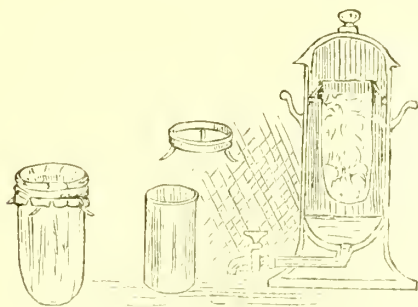
Cinnamon, myrrh, and savin, which in drying would lose some of their valuable constituents, are merely coarsely powdered in a mortar. The only source of variation in this process would be some differences in the qualities of the ingredients used, of which the operator would be a better judge than of ready-made finished preparations.

Objection has been raised to the troublesome manipulation involved in transferring the ingredients from one vessel to another. Difficulties of this description will sometimes form an obstacle to the adoption of a process.

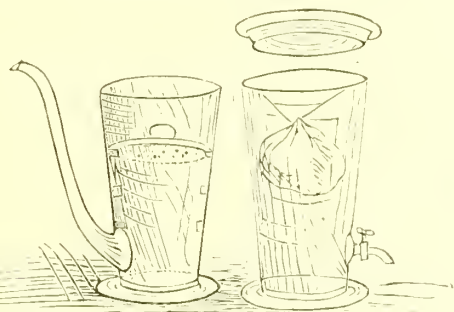
More than twenty years ago, shortly after the publication of the process, I suggested a modification which met every requirement.

The automatic displacement process which I invented fulfils the intentions of the Pharmacopœia, while it comprises the principles of Dr. Barton's process and of the process of displacement. Maceration is effected by suspending the ingredients in the upper part of the liquid, thus avoiding agitation. The apparatus is a copper vessel, well tinned inside with a round bottom and well-fitting cover. It is furnished with a cock to draw off the liquid. Near the top of the vessel a wire is fixed against the inner surface for the support of the ring, to which a flannel bag is attached. It should be cylindrical, with a round piece sewn in at the bottom, and sufficiently long to reach nearly to the bottom of the vessel. The open end of the bag, which is about equal in circumference to the ring, is to be passed up through the ring, and then turned over and secured with string. Automatic action speedily commences when the materials and

spirit have been introduced. The spirit in contact with the solid ingredients becoming charged with soluble matter and heavier than the surrounding uncharged spirit, falls through



the bag by its gravity, its place being taken by fresh portions of the lighter spirit. A constant circulation is thus kept up, and a percolating and displacing process is maintained for the whole forty-eight hours. Draw off the tincture and drain the contents of the bag. Insert the cylinder into the bag, pushing it down to the bottom, and it is thus converted into a percolator. When percolation has been finished, remove the cylinder, squeeze out the bag with the hands, and transfer to the tincture-press. The bag by an arrangement of studs may be suspended higher or lower. The principle of automatic tincture-making may be carried out without the aid of the apparatus by a flannel bag suspended on a raised trivet being inserted into a wide-mouth covered vessel. If of glass, the process will be visible during its operation. Sim-



licity and effective mode of working may be claimed for this process. It strictly carries out the intentions of the British Pharmacopœia, free from mechanical inconveniences involved in official directions.

NEW COMPANY.

LANGFORD & COMPANY, LIMITED.—Object, to acquire the business heretofore carried on by Wm. H. Langford, at 37 Fore Street, Hertford, and to manufacture, purchase, and sell drugs and poisons. The capital is 2,000*l.*, divided into 2,000 shares of 1*l.* each, with power to increase the capital. The first subscribers are (one share each):—W. H. Langford, 37 Fore Street, Hertford; C. Langford, 37 Fore Street, Hertford; G. H. Dwyer, 4 Currie Street, Hertford; J. Medcalf, auctioneer, Hertford; J. D. Medcalf, sen., auctioneer, Hertford; Caroline Langford, 37 Fore Street, Hertford; W. H. Langford, clerk, Emily Villa, Shorburne Road, Tottenham. Charles Langford is to be the first director, and the Company may at any general meeting appoint two other directors, but the number of directors shall not exceed three in all. Registered June 11, by J. N. Mason, Phillips & Cotton, 32 Gresham Street.

PHOTOGRAPHY AND THE CHEMIST AND DRUGGIST.

THE ready publication of my letter upon the cultivation of scientific trade by the chemist and druggist, and the favourable reception accorded to the subject, suggest that it might be useful to refer more in detail to the chemicals most frequently required by the amateur photographer, and to give a few common formulæ employed in developing, fixing, and toning, trusting thereby to induce pharmacists to remove from their profession the stigma that, having sole power of sale under the Pharmacy Act of 1868 of certain poisonous articles, they should so often prove incapable of meeting the public demand for the same. That the recent conviction has had some effect upon the proprietors of photographic stores may be gathered from the following extract, from the *British Journal of Photography* of the 18th of last month (June).

"It is a good thing for photographers that the recent conviction under the Poisons Act of 1868 did not occur in the wet collodion days, or they might at times have experienced some little inconvenience in obtaining their supply of cyanide of potassium. Dealers in photographic chemicals are just now very cautious in the sale of the article. Out of curiosity we last week sent for a small quantity to several establishments, but in each case it was refused, whereas a few weeks back it would have been supplied without any questions whatever being asked. On inquiry for the article at a pharmaceutical chemist's in our neighbourhood, he produced a bottle containing a few ounces, which had evidently been in stock for years, and the price for an ounce was nearly as much as we had been in the habit of paying for a pound. Fortunately 'cyanide' is very little used in dry plate photography, otherwise, now that the art is practised by so many amateurs who purchase their chemicals in small quantities, the inconvenience at times might be very great."

It may almost be said that every chemical upon a druggist's shelves has at one time or the other been used or experimented with in photography, yet the actual working "materiala photographica" is small, and therefore so much the easier is my task. As a rule, the complaint is not that the chemist has not got the article, but that it is either old stock and useless, or, if good and pure, it is exorbitantly charged for. First, I briefly summarise some information regarding the quality used and fair price of

THE CHEMICALS.

Acetic Acid ($\text{HC}_2\text{H}_3\text{O}_2$) is used as a restrainer in development, and may be found in many formulæ of the wet plate process. Any other acid would answer the purpose and the organic acids are more commonly used in the development of gelatine plates.

Citric Acid ($\text{H}_3\text{C}_6\text{H}_5\text{O}_7$, H_2O) is used both as a restrainer of the developer in the reduction of the silver salts in the photographic film, and as a clearing solution, when after development the plate appears too dense or fogged. The price should be approximately 3*d.* per oz., or 3*s.* 6*d.* per lb. Be it remembered the photographer cannot buy his materials at the dispensing rate of charge, even if he sometimes ask for them in small quantity. Did he do so photography would quickly lose favour in the eyes of the dilettanti.

Pyrogalllic Acid, or *Pyrogallol* ($\text{C}_6\text{H}_6\text{O}_3$) is the most common developer used in this country, and, although somewhat dirty, holds its own against its many organic and inorganic competitors. It owes its properties to its being a ready and powerful absorber of oxygen, its solution becoming brown on oxidation. In developing silver bromide negatives its solution must be rendered alkaline. Schering's acid is the best, and may be bought in bottles at from 1*s.* 6*d.* per oz. according to the quantity taken.

Alum ($\text{AlK}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$).—This substance in saturated solution is used for hamersing gelatine plates after development, to prevent frilling, that is to prevent the gelatine film leaving the glass plate at the sides. The ordinary druggist's retail price, say 2*d.* per lb., might be charged for this.

Ammonium Bromide (NH_4Br) is a restrainer in development, and allows greater latitude in the use of the alkali, and therefore in the exposure without fogging the plate. It should be sold at about 3*d.* per oz., or 3*s.* 6*d.* per lb.

Gold Trichloride (AuCl_3) is used to give a purple colour to silver prints. It is usually sold in tubes containing 15 grains

each, at between 1s. 10d. and 2s. per tube. Johnson's is usually sold as the best.

Ferrous Sulphate ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$), pure and unoxidised, is used for a clean method of development in conjunction with **Potassium Oxalate** neutral ($\text{K}_2\text{C}_2\text{O}_4$), forming ferrous oxalate (FeC_2O_4), which reduces the silver sub-bromide or iodide of the exposed plate, becoming itself converted into a ferric salt. ferrous sulphate is an article of everyday sale at 4d. to 6d. per lb., and potassium oxalate should cost about 1s. 6d. per lb.

Mercuric Chloride (HgCl_2) is used in intensification, the silver reducing it to calomel, and an ammonia bath converts this into black mercurous ammonium chloride. Here is a substance which an amateur has at times some difficulty in obtaining from a druggist, although he may have none at the photographic dealer's. The ordinary retail price of this substance will be paid without question, but the seller should put as few obstacles in the way of a *bona-fide* purchaser as possible.

Cyanide of Potassium (KCN), now that wet plate photography has gone out of vogue, is not much used, and its fumes and those of its compounds are dangerous, to say the least. It deteriorates by keeping, and should be stored in dark bottles containing 1 lb., which should retail from 2s. to 2s. 6d. It is a solvent of the haloid salts of silver, and therefore is a fixing agent, but its place is taken by hypo.

Nitrate of Silver (AgNO_3), recrystallised, is the corner stone of photography, for from it the sensitive salts on the gelatine plate and the sensitised paper are made. Many amateurs make their own emulsions and coat their own plates, using a quantity of this substance, the price of which fluctuates very much. I think it might now be bought at from 3s. 6d. to 4s. per ounce.

Acetate of Soda ($\text{NaC}_2\text{H}_3\text{O}_2$) is used in the toning solution to restrain the deposition of the gold; 1d. per ounce, or 1s. per lb., is about the usual price.

Carbonate of Soda ($\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$).—This is used in the alkaline development of gelatine plates. The common washing soda will do, but it is usual to supply the pure salt, which is in some formulae ordered to be gently dehydrated before using.

Hyposulphite of Soda ($\text{Na}_2\text{S}_2\text{O}_3$)—properly thiosulphate. A most useful agent for dissolving out, by the formation of a soluble double salt, the unacted upon silver salts of both negatives and prints. I have bought it at 3d. per lb., or about 16s. per cwt.

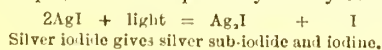
Ammonia (NH_3). 880.—I had almost forgotten our pungent friend, but allow him to bring up the rear. It is important that the amateur be not supplied with the B.P. solution, since the percentage of ammonia makes an appreciable difference in the working of most developers. 9d. or 10d. per lb. is a fair price. Many other substances will in the course of a scientific trade be asked for, but the photographic chemist, by keeping himself well up in contemporary literature upon the subject, will easily be able to meet the wants of his customers. To repeat, it is not that every chemist has not the materials, it is that he will not lay himself open to supply them in good condition and at a reasonable profit.

PHOTOGRAPHIC PREPARATIONS.

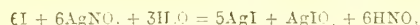
It will now be my endeavour to concisely point out the chemical composition of a photographic emulsion, and the action of the various reagents upon it in the operation of developing, fixing, &c., also the rationale of silver printing.

An amateur commencing will undoubtedly buy his plates ready prepared, but to perfectly understand the development and after treatment he must perforce know something about the composition of the sensitive film which he exposes. After a time, however, he will doubtless come to the photographic dealer for gelatine, silver nitrate, potassium bromide and iodide, in order to try his hand at emulsion making and plate-coating. It is beyond my present purpose to describe these, and I will merely wish him success in his operations, which, of course, are undertaken in a dark room, and consist of much washing, filtering, &c.

He has now a plate upon which is a coated gelatine film holding in suspension iodide and bromide of silver, which on exposure undergo the following decomposition, which looks extremely simple, but which probably is very complex:

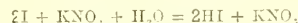


The free silver nitrate acts as an absorbent of the liberated iodine or bromine, or potassium nitrite is added for that purpose.



Iodine and silver nitrate with moisture give iodide of silver, iodate of silver, and nitric acid.

or



Iodide and nitrite of potassium with moisture give hydriodic acid with nitrate of potassium.

These chemical changes must be understood as taking place only upon a small proportion of the sensitive film, in fact only on those parts exposed to light.

Development—Every manufacturer of dry plates sends out a formula particularly adapted to his brand, and it is always advisable to follow closely these directions. However, to the theory. The changes brought about by the light are not apparent, that is, the image is latent and needs a developer. The one most commonly used is known as the alkaline pyrogallol, and the alkali may be either soda, potash, or ammonia, for health's sake preferably the two former.

Formulas for Alkaline Developers.

No. 1 SOLUTION.

Pyrogallol...	..	30 grains
Water ..	..	10 oz.
Dissolve.		

No. 2 SOLUTION.

Liquid ammonia (880)	1 drachm
Ammonium bromide ..	1 "
Water ..	10 oz.
Dissolve.	

Equal quantities of each of these are used, according to size of subject and exposure.

From experience I prefer the following potash developer of Mr. Beach.

No. 1 SOLUTION.

	Oz.
Warm distilled water ..	2
Sulphite of soda ..	2
Dissolve and when cold add	
Sulphurous acid ..	2
Pyrogallol ..	½

No. 2 SOLUTION.

	Oz.
Carbonate of potash ..	3
Sulphate of soda ..	2
Water ..	7

These solutions are used in equal proportions. For under-exposed plates use more of No. 2 and *vice versa*.

Soda Developer.

No. 1 SOLUTION.

Sulphite of soda ..	6 oz.
Water ..	1 quart
Pyrogallol ..	1 oz.

No. 2 SOLUTION.

Carbonate of soda ..	4 oz.
Water ..	1 quart

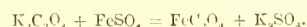
For development use equal proportions of each, diluted with a like quantity of water.

The silver sub-bromide and sub-iodide by this alkaline treatment are split up into silver, bromine, and iodine, the two latter combining with the alkali to form soluble salts, and the pyrogallol absorbs the oxygen thus liberated. It is doubtless much more complex, but this is roughly what is supposed to take place.

The proportions of pyrogallol and the alkaline solution are of course varied according to subject, the former giving density and the latter bringing out the half-tones of an under-exposed plate, that is giving detail. Care, however, has to be taken or the plate becomes hopelessly fogged, in the use of the alkali, and it must be added little by little. The addition of more bromide of ammonium will allow of more of the ammonia, since the bromide acts as a restrainer to the developer.

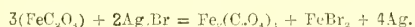
A process of development which does not find much favour in this country, but which, for simplicity, cleanliness, and beauty, is unrivalled, is with an organic ferrous salt, such as ferrous oxalate.

A saturated solution of neutral oxalate of potassium is made, and a similar solution of pure ferrous sulphate; an ounce of the former is mixed with half an ounce of the latter, the solution then assuming a beautiful orange tint—



The exposed plate is placed in this solution, and in a few seconds the latent image makes its appearance, than which there is no more beautiful object in experimental science.

The reaction is as follows, supposing it to be a gelatino-bromide plate—



The by-products, ferrous bromide and ferric oxalate, act as restrainers, and it is usual to add a little hyposulphite of soda to this developer, which converts the ferrous bromide into a hyposulphite and replaces it by a sodic bromide which is but a mild retarder.

Intensification.—When a plate has been under-exposed it lacks the necessary opacity to give a good print, and there are several methods of increasing the deposit upon the film. One may either use pyrogallol or ferrous sulphate with nitrate of silver, in which case the reactions are similar to those in development, or immerse the plate in a solution (1 in 10) of mercuric chloride, wash well, and flood with a weak solution of ammonia (1 in 20 to 1 in 40), according to intensity desired. The latter process I have found the readiest. The reaction I mentioned above in speaking of the use of corrosive sublimate. So much for intensification, which after all is far from satisfactory, and only experience can teach one the proper exposure for different subjects.

Clearing.—Owing to error in development, the negative may be too dense, and it is then placed in a clearing bath, which may be made thus—

Take of

	Oz.
Alum	2
Citric acid	1
Water	10

Wash after fixing, and immerse in above solution: or what is known as Eau de Javelle may be used, thrice diluted, and, as this might be asked for, the formula is given—

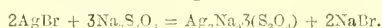
Eau de Javelle.

Take of

	Oz.
Dry chlorinated lime	1
Carbonate of potash	2
Water	20

Mix the chlorinated lime with three-quarters of the water, dissolve the carbonate in the other quarter, mix the solutions, boil and filter.

Fixing.—As was before mentioned, cyanide of potassium is not adapted for gelatine plates, hyposulphite of soda being always used. After development, the back of the plate will appear white, and this, due to unacted-upon salts, will gradually disappear in a 25-per-cent. fixing-bath. The reaction is as follows, but be it remembered this only takes place with an excess of the hypo—



This double salt of sodium and silver is highly soluble, and therefore is removed by washing. The plate must be thoroughly washed in several changes of water, drained, and when quite dry varnished. Before varnishing it is advisable to take a print from the negative in order to make sure that it is right in all particulars, and that it does not require intensifying or clearing. The plate may be flooded with methylated spirit, which not only makes it dry the quicker but hardens the gelatine.

Varnishing is a delicate undertaking, the plate being held by the corners and slightly warmed, of course on the reverse side to the gelatine, then the varnish is poured in a little pool in the centre of the plate (gelatine surface), and allowed to flow to all parts, carefully seeing that all is covered. The following is a hard durable negative varnish:—

Shellac	4½ drs.
Mastic	1 dr.
Turpentine	1 "
Sandarac	4½ drs.
Venice turpentine	1 dr.
Camphor	5 gr.
Spirit	10 oz.

Dissolve.

PRINTING FROM NEGATIVES.

We have now come to the stage of a perfect negative, the lights of which, in order that our friends may admire our skill, have to be reversed, and this is done by the sun in the

following manner:—Paper may be bought plain, albumenised, or sensitised. In the first case it must be coated with a solution of perfectly fresh albumen, containing a soluble chloride, before placing in the silver bath, which is usually made about 50 grs. to the oz. In the second the paper is ready coated and simply needs the silver bath, while in the last and simplest way for the amateur all is prepared, and he has only to cut the paper to the proper size of his printing frame and let good old Sol do the rest. An albuminate of silver, combined with chloride of silver and some free nitrate, is what is in the paper and exposed to the sun behind the negative. The action of light oxidises these into compounds which are afterwards unaffected by the fixing agents, and, as of course, the light acted the more or less energetically according to the opacity or density of the negative, it may be readily understood how the image is reversed, and where in the negative the high lights were black in the print they are white.

Toning.—This is a very pretty process, but one which requires experience and tact. It gives a beautiful purple colour in place of the foxy red of the silver print, by the double decomposition of the silver salt of the print and the gold of the toning solution, the gold being deposited. Acetate of soda or chloride of lime are added to the gold to act as retarders in the deposition of the precious metal, or mayhap of its oxy-chloride.

Toning Solution.

Sodic acetate	30 grs.
Gold trichloride	1 gr.
Water	10 oz.

To be mixed 24 hours before use. This quantity would be ample to tone a sheet 17 × 22 ins.

Fixing.—The principle of fixing prints is identical with that of fixing negatives, and consists in the solution of the undecomposed silver salts in hyposulphite of soda, which is made into a 20-per-cent. solution, one ounce of hypo being competent to fix about three sheets of paper.

Mounting.—After the prints are fixed they are well washed in several changes of water, sometimes a little common salt being added. The best medium for mounting is freshly-made starch paste, although many prefer a gelatine and glycerine paste with a trace of carbolic acid.

F. E. J.

Trade Notes.

HENRY LAMPLUGH (LIMITED) will open a shop in Old Broad Street shortly for the supply of their Saline.

MESSRS. LARS BREKKE & Co., of Hull, have altered the style of their firm to Brekke & Howlid, and will continue business under this name at 15 Blackfriar Gate, Hull.

A COMPANY has been formed under the style of the Anglo-Canadian Phosphate Company (Limited), capital 100,000l. in 10l. shares, with which it proposes to buy 6,908 acres of land in Ontario, containing valuable deposits of phosphate of lime, and to work the same. The total purchase price of the properties is 62,000l.

GINGER-BEER POWDER.—Mr. John Cavell, Long Sutton, prepares this powder for facilitating the preparation of the popular and old-fashioned beverage, a threepenny packet being sufficient for three gallons of the beer. The powder has an agreeable lemon flavour, and possesses full pungency. It is put up in air-tight packets, and each half-dozen is enclosed in an attractively-labelled counter show-box.

PHOTOGRAPHIC CHEMICALS AND APPARATUS.—The old-established and experienced firm of R. W. Thomas & Co., 10 Pall Mall, London, having noticed the letters and articles in this Journal recommending chemists to take up the trade in photographic chemicals and accessories, send us an advertisement announcing their willingness to assist pharmacists to develop this important branch of business by giving them instruction and by supplying them with any articles in small quantities. Messrs. Thomas tell us that amateur photography is extending enormously, and they think chemists can make good use of this fashionable amusement.

AUSTRALIAN VEGETATION.

ON Monday evening, at 8.30, Mr. Joseph Bosisto delivered a lecture on the "Indigenous Vegetation of Australia" in the Conference Hall of the Exhibition, which was comfortably filled. Amongst others in the audience we observed the following: Messrs. C. B. Allen, J. B. Barnes, Burroughs (of Messrs. Burroughs, Wellcome & Co.), Butt, T. Greenish, E. M. Holmes, Joseph Ince, Jackson (Kew), Martindale, John Moss, Paul, Robbins, and Tanner.

Mr. Bosisto was accompanied to the platform by Sir Graham Berry, Henry Burrows, Esq., David Mitchell, Esq., J.P., the Hon. W. Wilson (members of the Executive Commission of Victoria), and Mr. James Thomson, Secretary to the Commission.

Sir GRAHAM BERRY, on the motion of Mr. Wilson, took the chair amidst applause. In introducing Mr. Bosisto, Sir Graham Berry said that the task was an easy and pleasant one, for he felt sure that in the exhibition Mr. Bosisto was as well known as the exhibits themselves, and he referred to the fact that through Mr. Bosisto's exertions the Victorian Court had been made what it is, one of the most interesting in the exhibition. The subject of the lecture was one of which Mr. Bosisto was a thorough master, and while the audience would be much amused, they would also be greatly instructed regarding a class of plants, the full value of which was not known at present. (Hear, hear.)

Mr. BOSISTO, in some prefatory remarks, said that his lecture referred to a kind of vegetation which did not exist in England or in Europe, and which, there was every reason to believe, was very ancient. It was his intention to treat the subject in a popular way; certainly the lecture would not be strictly botanical, for he felt that to a large and mixed audience many technicalities of phrase and the like would be better left out. Thus he hoped to give the subject interest; apart from that, members of the genus *Eucalyptus* were widely spread all over the Australasian continent, were of great importance in the immediate locality, and of immense importance, he felt, to the whole human race. (Applause.) He then proceeded, in a very fluent manner and with a pleasant address, to deliver his lecture.

The subject of my paper, he said, namely, the "Vegetation of Australia," cannot be better introduced to your notice than by quoting the fable of the "Lauristinus and the Rose-tree."

In the quarters of a shrubbery where deciduous plants and evergreens were intermingled with an air of negligence, it happened that a rose grew not far from a lauristinus. The rose, enlivened by the breath of time and attired in all its gorgeous blossoms, looked with much contempt on the lauristinus, which had nothing to display but the dusty verdure of its leaves. "What a wretched neighbourhood," cried the rose, "is this; and how unworthy to partake the honour of my company! Better to bloom and die in the desert than to associate myself here with such low and dirty vegetables. And this is my lot at last, whom every nation has agreed to honour, and every poet conspired to reverence, as the undoubted sovereign of the field and garden! If I really am so, let my subjects at least keep their distance, and let a circle remain vacant around me, suitable to the state my rank requires. Here, gardener, bring thy hatchet, prithee, cut down this lauristinus, or at least remove it to its proper sphere." "Be pacified, my lovely rose," replied the gardener; "enjoy thy sovereignty with moderation, and thou shalt receive all the homage which thy beauty can require. But remember that in winter, when neither thou nor any of thy tribe produce one flower or leaf to cheer me, this faithful shrub which thou despisest will become the glory of my garden. Prudence, therefore, as well as gratitude, is concerned in the protection of a friend that will show his friendship in adversity."

The indigenous vegetation of Australia is evergreen. In England it is deciduous—that is, the trees annually lose their leaves. England may therefore be compared to the rose, Australia to the lauristinus.

The fresh green scenery of June over the face of England is ever absent in primitive Australia; the daisies and buttercups, primroses and cowslips, do not deck her pasture lands, neither do her people behold the mayflower hedges or view the chestnut leaf, or the glossy dark copper foliage of the beech; and yet Australian flowers are gay in colour, and the

plant life is varied and pleasing. Sandwews and orchids, wild geraniums and native fuchsias, heath blossoms in almost endless coloured tints abound in many parts in reckless profusion; these and many other flowering and foliage plants intermingle their varied hues over the surface of the land. Along the side of the creeks and watercourses may be seen during many months of the year the mimosa trees in full bloom, the tufted bunches hanging like golden balls, and perfuming the air with the sweet scent of the cassie. Even in the forests around evergreen fern trees grow in luxuriance and beauty under the shade of tall timber trees, where can be seen pretty tiny flowers peeping up between the broken pieces of the fallen shed bark from the gum trees. Parrots and cockatoos scream their wild notes, wrens and robins and other gay-coloured birds twitter about the scene, and over all reigns a bright sunny sky. These and other tropical and subtropical beauties greatly compensate for the absence of England's native flowers. (Hear, hear.)

But lively scenery and the pretty flowers of Australia are not so much the object of this paper as it is to give you some interesting facts of a peculiar vegetation known as the *Eucalyptus*, which exists and reigns almost supreme over the greater portion of Australia and Tasmania, although entirely absent in the other islands of the South, with the exception of a few species in New Guinea. There can scarcely be a doubt but that at some period of the world's history Tasmania and New Guinea formed a part of Australia; hence the *eucalyptus* may be considered as a vegetation purely Australian. Strong evidences exist proving that the *eucalyptus* is an ancient Australian vegetation. River beds of great antiquity have been met with, at depths varying from 100 to 200 feet, and even deeper, in various alluvial gold-mining districts of Victoria, revealing occasionally massive timber trees without any sign of decay, belonging to the family of the *Eucalyptus*, chiefly those of the red gum (*Rostrata*) and the iron bark (*Leucocorylon*) species. Some species growing at the present day on the alluvial flats, mountainous ranges, and in the valleys, attain a prodigious size, both as to girth and height, bespeaking their longevity, possibly contemporaneous with the cedars of Lebanon.

The word "*eucalyptus*"—from *eu*, "well," and *kalypto*, "to cover"—is aptly chosen to distinguish this splendid family of plants from all others. This characteristic is observable in the limb of the calyx, completely covering the flower before expansion; and during its gradual development, the operculum, or lid, is uplifted in shape like an extinguisher, which falls off immediately the flower becomes matured. The chief characters of all *eucalypts* are in the firmness of the calyx, the absence of petals, the numerous rows of stamens inserted close to the edge of the calyx tube, the stamens being nearly always fertile, and also the many form-variations of the anthers in the different species. It is upon these variations of form that the division of the genus is arranged. This systematic arrangement was made by the late venerable Bentham, and acquiesced in by our Government botanist, Baron von Mueller, as being the wisest to adopt.*

The *eucalyptus* is an evergreen; it casts its bark annually, but this does not take place, like the falling leaf of England, at one given period of the year, hence there is always a rough and ragged appearance on the trunk of the tree. In those pictures in the Victoria Court which depict Australian bush scenery this is to be noticed, and is not, therefore, the fault of the painter, as some persons have imagined.

In the vegetable kingdom the *Eucalypti* belong to the myrtle family, so placed on account of its bearing certain botanical outlines to that of the garden myrtle of England; but the physical characters, as well as some peculiar botanical features of the *eucalypts*, place them as a distinct genus in the myrtle family of plants. Considering the vast area of the Australian continent—consisting of something over three millions of square miles, and measuring 2,500 miles from west to east, and 2,000 miles from north to south—it is surprising to find one tribe of trees forming at the present day four-fifths of the whole of the indigenous vegetation. An Australian traveller frequently feels the monotony of the scenery, but this is greatly dispelled by noticing the interesting variations in the leaf formation, in the colour both of

* The lecturer explained these facts more fully by reference to fresh specimens of the rose and other flowers, and to a large coloured diagram of *eucalyptus* foliage and inflorescence.

leaf and flower, in the appearances of the tree-bark, and in the shape and varied stature of the trees.

Of the 150 kinds or species found existing over Australia, it can easily be understood that the variations must be very great indeed.

On the mountains and in the valleys, and on the alluvial flats where the woodman's axe is but seldom heard, stand gigantic eucalyptus timber trees, in girth varying from 16 feet to 80 feet, and in height from 200 to 420 feet, and that often without a branch, the top being capped with radiating branches (like the ribs of an umbrella) full of foliage.*

Upon the undulating lands, although bearing many acacias and a variety of other kinds of trees, the prevailing feature is the eucalyptus; no matter where the traveller journeys, this vegetation is generally present.

Throughout Australia it may be viewed as a firm friend to man and beast. To the cattle depasturing and to the tens of thousands of sheep grazing over the pasture lands of the country it gives shelter from mid-day sun and from dewy night. The wandering swagsman or the travelling bushman, reaching no homestead at sundown, finds rest under its wide-spreading branches, and often shelter within some patriarchal gum-tree, which, although standing firm and erect, has become, through old age, hollow in the centre, sufficient to give him, or even half a dozen other persons, a comfortable rest house for the night. To many of the early pioneers of Australia have these trees given a nightly home, and many a meal of damper and mutton and many a smoke-pipe of peace have been taken inside their cavernous recesses. (Hear, hear, and applause.)

In the scant rain tracts of Australia there are many millions of acres on which grow a scrub of dwarf eucalypti, averaging in height not more than eight feet; this scrub is so dense that it almost shuts out the sight of sun and sky. Once an untutored traveller loses the tract, and gets entangled but a small distance in this forest of sticks and leaves, the chances are that he never returns either to kith or kin again. Many persons travelling through this country have died for the want of water, and yet there is always a supply sufficient to sustain life close at hand, did they but know it; for in one kind of this dwarf vegetation there is lodged in the stem about half a pint of pure water; and as bushmen generally carry a tin pannikin and a small tomahawk, he has nothing to do but to cut down one of these stick-like stems and place the lower end of it into his vessel, when he will in a short time obtain water. The question of interest that arises here is, whence comes this fluid, and how is it so stored? To this question I will endeavour to give the answer presently. This strange tract of country I have traversed; there is not a sound of life to break the solemn silence, scarce a bird to be seen, and not a stone or a pebble the size of a marble to be obtained; a few dingoes or wild dogs prowl about here and there at night. Native wells, scattered far apart over an area extending some thousands of square miles, are to be met with, but they are more frequently found dried up than otherwise, and yet the soil in many parts is well adapted for wheat growing; it is a mixture of sand, decomposed ironstone and vegetation, with a substratum of limestone. Weird is the scene; still the vegetation found growing jungle-like over these lands contains health principles both for climate and for suffering humanity.†

The Government of Victoria is, I am happy to say, fully alive to the advantages of irrigation. Only in last Saturday's London papers appears a cable message from Melbourne, stating that the Hon. Alfred Deakin, Chief Secretary, has introduced a Bill in the House of Assembly providing for a system of irrigation embracing an area of 3,250,000 acres, to be carried out under the management of the Water Trust, but vesting the supreme control of the works in the Govern-

ment. The system is expected to prove of immense benefit to farming interests. The expense is estimated at 3,800,000l.

Thus far I have taken you rapidly over the general aspect of Australia in relation to its plant life; to end here would leave out the most interesting portion of the peculiar characteristics of Australian chief vegetation, viz. the Eucalyptus, which covers so vast an area, almost as large as the whole of Europe, and which has given character to Australia, both in climate and in the health and comfort of her people. From the heavily timbered eucalyptus forests down to the scrub I have just mentioned, every variety of wood is obtainable; whether it be for ship or house building, or for docks or bridges, for carriages or waggons, for land fencing or garden ornamentation, or for fuel, its variety is unbounded, and its durability is in many cases equal to its longevity. In the several Australian courts the timber trophies consist chiefly of the many species of eucalyptus, or, as they are termed in Australia, gum-trees; an examination of these trophies will satisfy any person that I have not exaggerated the timber value of these trees.*

Although the leading forest timbers of Australia consist of the eucalyptus, yet there are a variety of other kinds. In the eucalyptus the wood varies in character quite as much as do other kinds obtainable from other timber trees: for instance, the well-known blue gum (*E. Globulus*) is a hard light-coloured timber of great strength and tenacity, as well as durability; extensively used for beams and joists in buildings and for railway sleepers, also piers and bridges—for which purposes a test has been made between some blue gum, English oak, and Indian teak. The blue gum carried 14 lbs. weight more than the oak, and 17½ lbs. more than the teak per square inch.

The red gum tree (*E. rostrata*) is a very hard compact wood, possessing a handsome curled but short grain, red in colour, well adapted for many purposes in ship-building, such as heavy framing, beams, and knees; it is also used in the construction of culverts, bridges, and wharfs, and by wheelwrights for the felloes of heavy wheels, and is employed in Australia for railway sleepers and engine buffers; and owing to an acid it contains, termed "Eucalyptic acid," it resists the attack of the *Teredo navalis*, or sea-worm. The iron bark gum tree is one of the hardest and heaviest of our native woods.

The stringy bark tree (*E. obliqua*) is an easy-splitting wood, and is usually employed for palings, shingles, and posts; in like manner do all the varieties change. Many varieties of tree acacias are met with in all the forests of Australia, such as the myall and the wattles, also pines, banksias, casuarinas, pittosporums, eugenias, melaleucas, and others too numerous to mention.

It is to be deplored that just now the country is being subjected to a wasteful destruction of many kinds of the eucalyptus. Some of the best varieties in various districts are totally disappearing, and without some determined and immediate action on the part of the Governments of Australia, but few decades will pass before a timber dearth sets in. The subject of forestry has attracted the attention of most countries of the world; even in Australia, botanists, builders, contractors, and legislators have uttered a warning voice. The lands of Australia at present are full of the seeds of timber trees; the selectors of our lands know this right well. Let them but neglect to cultivate their farms for a season or two, they find them covered over with a growth of young timber plants consisting of the eucalyptus and acacias; but timber seeds, although covered with an epicarp (that is, a thick horny coat), in order to protect the germ from an early loss of life, yet the seed cannot retain its power of germination for many years when the lands are kept under

* This may appear to be an extraordinary statement, but many a time the lecturer had seen these high and bare stems, and when he explained the way in which the trees are cut down, he thought the fact would become more clear. When a tree is felled, the first thing done is to erect a high platform, so that the stem may be cut as far from the bottom as possible, in order that the tree may have room to fall. When it does fall, owing to its size and density, the sound is like thunder.

† The lecturer stated that in some far-out points of Victoria as much as 17,000,000 acres of country have been cleared of forest, and he deplored the devastation which is thus being produced.

* Most of the furniture in Australia is made of eucalypt timber, and it is found to be admirably suited for all kinds, from exquisite and artistic drawing-room furniture to the rough kinds used in the kitchen. The lecturer exhibited specimens of the timber and pointed out its remarkable density. The wood takes many years to mature, but when it does mature it is almost imperishable. A railway sleeper of *E. rostrata* wood was also shown which had been 22 years under the ground, yet it was almost unaffected by this long exposure. He had seen piles taken up in Sydney which, after 60 years, were in such good condition that, after a fine shaving was removed, it was found that the wood was as fresh as the day it was put down.

cultivation.* Vegetation aids materially in equalising the temperature and climate of a country. There can be no doubt that the climate of Australia, speaking in general terms, is not so hot as it was forty years ago. The modification is produced by cultivation and the opening up of lands which formerly were covered with dense forests, tangled bushes, ferns, climbing plants, lichens, and mosses. But the climate of an extended area like Australia cannot be dealt with in one general statement. The highest mountain is less than 10,000 feet high, and few exceed 6,500 feet in height. Majestic alpine chains of ranges stretch through many parts. The snow line of Australia is less than most other countries, arising probably from the cold Antarctic winds receiving their first break on these bleak mountain ranges. Aerial, oceanic, and terrestrial magnetic currents produce many changes over so vast a continent. The rainfall of Australia varies considerably in many parts: in the hill districts approximately it may be stated to be fifty inches per annum; in the undulating woodland districts, from thirty to fifty inches; the adjoining plains, twenty inches; over the wide expansive plains away from mountains or hills, from five to fifteen inches; and farther on into the interior, rain has been known to be absent for two or three years together. All these things affect climate, but there is nothing in the physical features of Australia to promote miasma. Its lagoons and swamps are not extensive; most of them are dry during the summer months; and even where they remain otherwise there are surroundings of a healthy character, especially the tan bark and leaves of the eucalyptus, which fall in, obviating thereby any ill effect. (Hear, hear.)

The physical geography of Australia does not differ in its general outline from that of other countries. The first Victorian geologist—Professor Selwyn, now the Government geologist of Canada—reported that, “In general structure, character, and composition in geological sequence, and in physical and paleontological relations, the rock formations are in all respects analogous to those of other regions.” But there is a factor at work throughout Australia which makes the climate so acceptable to human life, and that is the eucalyptus vegetation, belonging, as I have before intimated, to the myrtle family of plants. It is full of aromatising odours; the sense of smell when in our forests, or even travelling in the country, bears ample testimony to the presence of its volatile bodies in the air, for there is no mistaking the odour, as it is different from all others. There is not a single species but what possesses in its leaves a volatile essence. Each kind varies in percentage of yield, but still of the vast number they can be reduced for practical illustration under eight types, or species, namely:—

The *viminialis*, or manna-yielding eucalyptus; the *odorata*, or sweet smelling; the *rostrata*, or red gum tree; the *obliqua*, or stringy bark; the *leucorylon*, or iron bark; the *Globulus*, or blue gum; the *dumosa*, or mallee; the *amygdalina*, or peppermint-scented eucalyptus.

The eight kinds I have mentioned supply the minimum to the maximum, the minimum yielding 7 fluid oz. of the volatile essence, and the maximum 500 fluid oz., or 25 imperial pints from every 1,000 lbs. weight of fresh leaves. No vegetation occupying so vast a country contains so much volatile bodies in its leaf portion as the eucalyptus; assessing alone the whole colony of Victoria (being that part of Australia in which most of my experiments were made, and I may tell you that I have practical experience extending over thirty years) at the low average of supply of 20 oz., or 1 pint, to the acre, we have 9,730,500 gallons of an essential and volatile substance held at one and the same time in the eucalyptus vegetation.

So far as I have been able to proceed in this investigation over the continent of Australia, similar conditions exist; so that it may be safely asserted that in the whole of the leaf surface of the eucalypts in Australia there is continually 96,877,440,000 gallons of this volatile material. If, therefore, the whole of the odorous principles were retained in the leaves until set free by the art of man, in that case its effect on climate would fail; but if they are given up freely by the

natural forces of the tree under the aid of light, heat, or electricity as existing around, or by some or all of these forces in combination, then we have good reason to value the eucalyptus vegetation beyond all others (hear, hear), in being capable of influencing the climate of a country for purposes of health. (Applause.) Leaves of trees necessarily are in close connection with the roots; together they keep up a continuous action of exhalation and replenishment; evergreen trees, especially the eucalyptus, unlike deciduous trees, which sleep during many months of the year, work constantly, but at times less energetically.* Deciduous leaves generally perform their functions on one side only, that is, they change the sap juices of the plant on the side turned upward to the sun; but in the case of the eucalyptus it is quite different—these have a double action. There is no difference in the anatomy of the two sides of the leaf, breathing pores abound on each side, and the cells containing the volatile oil run through the leaf. These oil-cells in most cases are visible to the naked eye, and can be counted in hundreds. Light and warmth operate alike on both sides of the leaf; each being suspended in a line with the axis of the tree, giving facility for the remarkable and interesting movement of the petiole or leaf stalk, which is continuous in its action under the warm currents of the air, or the direct rays of the sun, keeping one side or the other of the leaf's surface to face the sun or the warm air current, and so establishing perpetual leaf operation. Now it is by the natural forces of the tree and the leaf action acting in unison that the watery and odorous bodies are continually set free in the air, and in such minute and diffusive atoms that they may be expressed as the fragrant breath of the tree, requiring as it does thousands of its compound particles to form a single drop. Under such circumstances, these odorous bodies speedily change their molecular condition, and supply to the atmosphere an extra amount of active oxygen: it is this unceasing health factor throughout Australia which makes it on the whole the finest climate in the world. (Great applause.)

Victoria, the colony in Australia with which I am more particularly identified, possesses a low death-rate, owing greatly to its pure and invigorating air. Formerly, in the days when the gold fever was at its height, during the years 1851, 1852, and 1853, when rapid colonisation set in from Europe and America, typhoid and other fevers hovered over the dense population residing in the tented cities and towns; the insidious organic poison germs held high festival amongst the people, and for a time baffled the efforts of our then sanitary reformers. The remedy which then came to our rescue was a strong hot air current that had travelled hundreds of miles over the vast areas of our eucalypt vegetation. The hot winds came with their withering blast and entered into every habitation, destroying or attenuating the fever germs, speedily giving relief, and in most cases restoring the sufferers to a condition of health.

At the present day the severe virulent fever types but seldom take hold of the people. Sanitary laws are not so openly violated, and the population suffers more from the ills of life, either the result of inheritance or from their own individual transgression of one or more of nature's laws. (Hear, hear.)

Ladies and gentlemen, I have endeavoured to briefly describe to you the vegetation of Australia; the limited time at my disposal to-night does not enable me to do full justice to the subject, still I trust I have made clear to you that the country is full of benignant surroundings. The early pioneers who still remain, together with their children, young Australia, live contentedly and happily on its soil. In the words of one of our best writers on Victoria, and the gentleman is present, Mr. Julian Thomas, and I give you this in conclusion: “During the gold fever the brains and the blood, the mental courage, as well as the bone and muscle, of Europe flocked hither, and the fittest survived. Victoria has ever been a pioneer colony, it owed nothing to Government aid; in fact, its early prosperity was retarded by Government interference. It was founded solely by individual energy, and its people have ever remained pioneers; it is in their blood. Victorians, Burke and Wills, were the first to cross the continent in 1860. They lost their lives, but made their names immortal; a massive monolith of granite was placed over their graves in Melbourne cemetery, and a fine

* The lecturer advocated greater respect for timber trees than is shown at present by Australian settlers. The first thing that they do is to cut down the trees, in order to make way for grazing land; the consequence is that ere long there will be a scarcity of timber, unless some precautions are taken to enforce replanting.

* The lecturer illustrated these remarks with fresh specimens.

bronze statue of the two explorers, from a design by Charles Summers, was for years the chief sight of Collins Street, an object lesson for our youth. (Hear, hear.) The Burke and Wills expedition cost the people of Victoria 57,000/. The end justified it, for within two years of the death of the leaders from starvation 'tierces of beef were displayed in Melbourne, salted down from cattle pasturing on the spot where they perished.' (Hear, hear.) Far away in the 'back blocks' in the centre of the continent, in the sugar lands of the north, on every new gold-field, Victorian muscle and energy and capital are to be found. In the South Sea Islands, in the pearl fisheries of Torres Straits and Western Australia, Victorian pioneers are foremost; and Victorian enterprise has done much towards the exploration of New Guinea. (Hear, hear.) Although they claim Victoria to be the richest, the most populous, the most prosperous, and the most energetic of all the Australian colonies, yet Victorians were the first to raise their voices for the federation of the colonies, the political unity of Australia. (Applause.) Then the people of all the provinces, at present divided by absurd local prejudices and jealousies—(hear, hear)—will be joined together for defence, and, if need be, for defiance; and some day in the future, following out the manifest destiny of the British race with the dear old mother country and her eldest born—the United States of America—(great applause)—will be linked together in a strong bond, ruling land and seas, and giving laws to all the world." (Loud and prolonged applause.)

At the conclusion of the lecture, Mr. BOSISTO intimated that there would be a magic-lantern entertainment, during which Victorian views would be thrown upon the screen.

The Hon. W. WILSON said that before the audience enjoyed the beauties of the scenery of Victoria he desired to say that Mr. Bosisto's modesty had prevented him mentioning many things regarding eucalypts with which he was more closely connected. He was sure that the lecture was of a highly interesting nature, and was sure to draw attention to eucalypts and their products. Mr. Bosisto's modesty, he said, had prevented him referring to eucalyptus oil. He therefore took the liberty of telling the audience that to Mr. Bosisto was due the credit of having introduced the most valuable of oils. Eucalyptus oil, he said, was an oil which seemed to cure everything, and was universally used in Victoria. He could assure them of the value of the oil. It was now well known in Europe and in England, and he mentioned that Germany had shown appreciation of it long before Great Britain. He characterised Germany as a more go-ahead nation than Britain, and she had taken eucalyptus oil and appreciated its value long before Britain. He was not saying this as an advertisement for Mr. Bosisto, for Germany could take a great deal more of the oil than Australia could produce. He concluded by moving a vote of thanks to the President of the Commission, who had done so much to make the Victorian Court a success.

Mr. W. L. SCOTT, in seconding the motion, said that on behalf of the scientific part of the world he had pleasure in supporting the motion. He also thought that Mr. Bosisto had not done himself justice, and that he might give another lecture of a more scientific and practical nature. Referring to the number of species of eucalyptus (150), he asked Mr. Bosisto if there was not one or two which would grow in this country. He thought this was a matter of great importance to agriculturists, and said that he spoke on their behalf. He then referred to the fragrance of eucalyptus oil as a perfume popular among the ladies, and to its introduction into the Pharmacopœia, and concluded by contrasting it with chlorinated lime and carbolic acid as a disinfectant.

Sir GRAHAM BERRY, in conveying the thanks of the meeting to Mr. Bosisto, said that he was not aware until recently that modesty was a characteristic of Victorians. There was no doubt, however, that Mr. Bosisto had kept back a great deal of his knowledge of the subject, and he was quite sure that he could give another lecture on eucalyptus products. In concluding, he advocated that there should be a larger hall than the one in which the lecture was given.

Mr. BOSISTO, in reply, thanked the meeting for their attentive hearing, and for the hearty vote of thanks which had been accorded to him. In regard to the references to his work he said that he had been educated in England, and the Pharmaceutical Society particularly had educated him in that part which preceded his botanical investigations in Australia.

To show the importance of the eucalyptus oil industry, he stated that his firm operate upon sixty tons of leaves per week, and he considered its introduction into the Pharmacopœia as the greatest compliment that had been paid to him for his work on the subject.

The views of Victorian scenery were then thrown upon the screen, and delighted the company greatly, and the proceedings concluded with a vote of thanks to the chairman, proposed by Mr. Bosisto.

AN AUSTRALIAN VIEW OF THE BRITISH PHARMACOPEIA.

WE quote the following article by Mr. T. B. Melhuish, pharmaceutical chemist, from *The Chemist and Druggist of Australasia*:—

The British Pharmacopœia of 1885 is hardly up to the expectations of many pharmacists, partly on account of the want of practical pharmacists on the revision committee. The errors are too many, and some of them are very careless.

There is one mistake which no writer to the home journals notices, as far as I have read, namely: in the corrections it stands thus—"Page 4, line 9, omit *Mist. Creasoti*." I maintain that it should not be omitted; or why have *Aect. Canthar.* or *Lin. Terreb. Aect.* in that list?

The weights and measures system is not what it ought to be. *The difficulty in adopting the metrical system* is put forward as the plea for its non-adoption. I presume the average Englishman has as much brain as any other European, yet every other nation in Europe has adopted that system, the benefits of which are undoubted.

I most strenuously advocate the introduction of the metrical system into the Pharmacopœia. Had it been adopted, Mr. Martindale's queries *re* glycerine and treacle (see CHEMIST AND DRUGGIST, December, 1885) would have been superfluous.

The pruning-knife, I think, might have been used with more advantage. The Cataplasmata are not wanted. *Conf. Rosa Can., Inf. Acor., Rhodod. Petala, Syr. Rhodod., Decoct. Taraxaci*, and a few others would not have been missed.

The additions for the most part are good, but I do not see why the green iodide of mercury should be omitted, as it is a preparation almost daily prescribed by the medical profession. *Syr. Ferri Phosph. Co., Syr. Ferri Phosph. c. Quininâ et Strychninâ, and Elixiv Phosphori*, might have been added with advantage.

I do not see any objection to compound preparations in the Pharmacopœia: in fact, they will tend to do away with those ever-increasing articles, "private formulas." *Liq. Ferri et Quinine Citrati*, U.S.P., is a useful and stable compound, and, being in a fluid form, is easier to dispense than the salt of the same name. This solution bears a definite relation to the official preparation, being exactly half its strength, and will save the time and labour of dissolving the comparatively insoluble salt.

As regards chlorodyne, *Tinct. Chloroformi et Morphine*, I do not agree with Mr. Martindale in advocating any increase of morphia in this popular remedy. Any increase of that active ingredient would make it far too dangerous a preparation for the public to handle indiscriminately as they now do. Why not increase the dose in the Pharmacopœia? "*Liquor Chloroformi et Morphine*" would be a more appropriate name for this preparation; it is certainly not a tincture.

In conclusion, I quite agree with Professor Symes that the Pharmacopœia "bears too much the stamp of the library;" and had a few pharmacists been on the committee we should have had a greater improvement in the book.

NOT POSTED.—Mr. Frank Bauer, of Columbus, replying at the Ohio Pharmaceutical Association meeting, to the query, "When powdered borax, bicarbonate of sodium, glycerine, and water are mixed together, effervescence occurs: what is the reaction?" considers that the trouble is with the borax, and not with the glycerine, as some have suggested. Mr. Wyndham R. Dunstan a few years ago proved that both are concerned in the reaction.

THE TESTS FOR ALBUMEN IN URINE.

LAST week we briefly referred to the fact that the Clinical Society of London had appointed a committee of investigation to report upon certain urino-albumen tests. We are indebted to the *British Medical Journal* for the following summary of the committee's results. This is a part of the physician's work which the pharmacist may undertake with advantage to both. The physician very frequently has to do such work after the visitations of the day, and would on that account gladly avail himself of the assistance of an intelligent pharmacist.

The Committee experimented with artificial admixtures of albuminous bodies in fluids other than urine, which need not here be particularised. The general conclusion obtained from these preliminary experiments was that solution of potassio-mercuric iodide with citric acid, particularly when used after Heller's method, gives the most delicate and clearly marked reactions; and that nitric acid is, for use in the consulting-room, not inferior to any but the potassio-mercuric iodide test; its use in the two ways indicated above being taken into comparative consideration with the other tests correspondingly applied. By the use of different reagents, the Committee were able to distinguish some forms of albuminous bodies from some other states or forms; for instance, peptones from egg-albumen, or serum-albumen, or the albumen of albuminuria.

As regards the clinical use of the tests above enumerated, the committee arrived at the following conclusions.

1. OF DR. OLIVER'S TEST-PAPERS, the potassio-mercuric iodide give the most delicate reactions of all the papers, and excel nitric acid, however applied. The ferrocyanide papers come next, but with a decided interval, and the tungstate papers third: whilst the picric-acid papers are less satisfactory, as an inconvenient quantity has to be used. The two first-named papers require the use of citric acid in the cold, which involves a possible fallacy, in that citric acid produces a precipitate when an excess of soluble urate is present in the urine. Urine of high specific gravity should consequently be diluted, to avoid this source of error; and sufficient acid must be added to render neutral or alkaline urine distinctly acid. The potassio-mercuric iodide papers appear to precipitate all albumens indiscriminately; but the precipitates with artificial peptones are dissolved on heating, and reappear on cooling. The ferrocyanide papers do not precipitate artificial peptones; while their reaction with other albumens is keen.*

2. DR. PAVY'S PELLETS of nitric acid and ferrocyanide of potassium are reported to give as good results as the potassio-mercuric papers of Dr. Oliver (neither of these reagents being quite so searching as the solution of the potassio-mercuric iodide). They are stated not to precipitate peptones; and, therefore, in conjunction with the iodide solution, they may distinguish the two kinds of proteid, and, so far, help in the clinical analysis of pathological conditions. In using this test, citric acid has to be first added; and this source of fallacy must be avoided by dilution, where the specific gravity of the urine is high. Bubbles of gas, which the pellets sometimes liberate, must also be distinguished from a precipitate.

3. DR. JOHNSON'S PICRIC-ACID SOLUTION requires decided excess of the reagent, or the addition of acetic or citric acid. It is reported to be most useful, giving reactions

only second to those of the potassio-mercuric iodide solution. The mixture of picric acid and urine should be boiled. Artificial peptones are thrown down by this test in the cold, but disappear upon boiling, and reappear as a cloud on cooling. The picric-acid solution should be dropped into the tube of urine, held vertically, in such a way that each drop falls upon the centre of the surface of the urine, so as to obtain differentiation by the production of a film around it, if albumen be present. This cannot be managed if the solution be poured down the side of the tube, as the picric-acid solution is of low specific gravity, and highly diffusible. This gives a precipitate, not necessarily albumen, in the urines of persons taking quinine. The precipitate is distinguished by its being soluble on boiling, to reappear in a crystalline form on cooling: whilst it gives the quinine reaction with chlorine water. This test also precipitates uric acid in the cold; but this cloud disappears under heat.

4. ROBERTS'S BRINE TEST is stated to be sensitive, and very trustworthy, though not quite so delicate as the other tests. It does not precipitate peptones or quinine; and it is said to allow the discrimination of mucus from albumen, the cloud of the former being superimposed upon the albuminous cloud.

5. PICRIC-ACID BRINE can be used after Heller's method, which is not possible with picric-acid solution alone, owing to its low specific gravity; it gives good results.

6. POTASSIO-MERCURIC IODIDE SOLUTION, with addition of acetic acid, is the most delicate test in the list.

7. NITRIC ACID, USED BY HELLER'S METHOD, and added cautiously, in a somewhat diluted state, to urine just boiled, is declared to be a test of great delicacy, and to be liable to fewer fallacies than the other tests considered. The drawback to this test is its difficulty of portability.

8. ACETIC ACID, added so as to insure a decided acid reaction to urine just before, or immediately after boiling, is a delicate test.

The report states of mucin, that it is precipitated by most of the reagents which precipitate albumen. The distinction of the two clouds, when formed by Roberts's brine test, has been already noticed; the same kind of indication is given with nitric acid, in Heller's method. With regard to the other tests, mucin cloudiness thereby obtained shows less ready sedimentation than albumen cloudiness, and exhibits a marked mobile satiny appearance of the precipitate when shaken in a good light. In some urines, the potassio-mercuric iodide and picric-acid tests produce a precipitate apparently albuminous, when nitric acid affords no such indication.

Finally, the committee think all the tests are valuable practical aids in diagnosis: that some are especially portable, and capable of application without the use of cumbersome apparatus; and that each test has a usefulness of its own. The committee consider that anyone devoting himself to the thorough use of one of the tests will find it sufficiently precise for all practical needs, and that, by comparative use of several tests, the discrimination of differing forms of proteids may be obtained. The picric-acid test, which admirably detects albumen and peptones, if boiled with caustic potash, detects, also, the presence of sugar. The committee lastly note that the knowledge of the reactions of albumens is at present imperfect, and, possibly, capable of much improvement. But to the settlement of this question their functions did not extend.

The points, however, which were delegated to the committee for inquiry are of great practical importance to almost all classes of practitioners, and have, apparently, received a calm judicial investigation. For their labours and this report, which Dr. Ord presented on behalf of the committee, the members will receive appreciative thanks.

The subject of testing for albumen was, many years ago, considered to be settled on a fairly satisfactory basis; and those practitioners who then learned to use heat and nitric acid skilfully have, according to this report, no reason to be mistrustful of those tests. But the appearance, during recent years, one by one, of several other methods of testing, each claimed by its introducer to public favour as the "best on record," has tended rather to shake men's confidence in the tests with which formerly they had been quite satisfied. This report, happily, will go far to reassure practitioners of the excellence of those methods for ordinary laboratory work.

* One apparent fallacy that might occur in the use of Dr. Oliver's papers is not noticed in the report. It happened to us once, in employing an iodide paper to test some serum drawn from a hydrocele, to find that the paper gave apparently no reaction, whereas the liquid, when boiled in another tube, became quite solid. Upon taking the paper from the first portion of the liquid, however, and examining it more carefully, it was found to be coated completely with a thick layer of solid albumen, which had apparently prevented any further egress of the salt from the paper into the liquid around, in that way frustrating all further reaction. The very sensitiveness of the test induced a belief in its failure. When, however, the serum was well diluted with water, the albuminous nature of the liquid was at once completely demonstrated by the paper. It is, perhaps, possible that the same thing might occur in a specimen of extremely albuminous urine.—Ed. *British Medical Journal*.

Friedrichshall.

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EDITORIAL NOTES.

VISCOUS MIXTURES.

THREE weeks ago a correspondent submitted a prescription which he had dispensed, and which in two days became perfectly gelatinous. The mixture contained a little over five fluid drachms of spirituous and saccharine solutions in an eight-ounce aqueous mixture, or roughly about $2\frac{1}{2}$ or 3 per cent. of solids. Several replies have been given, in the main corroborative of the first correspondent's experience, and other examples of a similar kind have been sent to us. One was a gentian infusion mixture which became gelatinous in a few days; the other is a simple mixture of syrups and

laurel and plain waters. In neither case was there any substance present which yielded a gelatinous body by decomposition. This subject is one of considerable interest, and, apart from its importance as a source of annoyance to the dispenser, is deserving of some practical inquiry. It is well known that elder- and orange-flower waters, in the course of keeping on the shop shelves, quickly present the appearance of organic growth and ultimately become quite viscid. Some years ago Mr. Thomas Greenish examined orange-flower water microscopically, and was enabled to prove the presence of one or more organisms (bacteria). This development of viscosity is more common than is generally supposed, and we may instance a few cases which have come under our own observation. The most notable instance was afforded by a supply of distilled water, which had been kept unused in a stoneware jar for several months. This was found to be as thick as tragacanth mucilage, and presented an appearance exactly resembling elder-flower water which has gone wrong. If there is anything which is considered to be the quintessence of purity it is distilled water, and in the case referred to the cause was attributed to absorption of atmospheric ammonia. Mr. Blunt has recently shown, however, that nitrous acid or ammonium nitrite is an impurity of distilled water, and another investigator has lately been working at the same subject, and in a sense confirms Mr. Blunt's statements as to impurity. Nitrites and ammonia are closely associated with water, and their presence is favourable to the development of such organisms as Mr. Greenish has referred to. The same viscosity has on many occasions been observed in peppermint water prepared by the magnesia method, and stored in a carboy kept in a place subject to variations of temperature. Another case not less remarkable was recently brought under our notice by a wholesale house. They had returned to them a bottle of potassium bromide, with the statement that it was impure. A mixture containing half an ounce of it, an ounce of simple syrup, and distilled water to eight ounces had become syrupy in a few days, and, as the same did not take place with another make of bromide and spring water, it was inferred that the suspected bromide was at fault. It was ascertained by two competent pharmacists independently that the bromide was free from impurity, and they failed to obtain a viscous mixture with distilled or plain water. In this case it is evident that the distilled water used in the first instance was at fault. We have also observed the phenomenon in concentrated infusions, weak in spirit, and in various mixtures similar to those that have been instanced by correspondents. It has been supposed that the phenomenon is the manifestation of a chemical change—the decomposition of a saccharine or mucilaginous body into one of an amorphous or gelatinous nature. It is evident that the presence of organic substances is necessary for the development of the phenomenon. It is most probable that the gelatinisation is due to the presence of mycelia of vegetable organisms, and that it is of a kind with that which takes place in the coagulation of blood from the separation of the fibrin. The mycelia are long and thread-like, and ramify through the liquid as fibrin ramifies in recently-drawn blood. Various means have been suggested to remove the viscosity, the latest, by Mr. P. Carlos, is to agitate the liquid with a little subnitrate of bismuth. The action of this is not explained—possibly it acts by aggregating the thread-like mycelia, and, if this be so, agitation with any insoluble pulverulent substance, such as clean sand, may have the same effect. To prevent viscosity the presence of a fair proportion of alcohol is necessary, and great care should always be taken to ensure that distilled water employed in dispensing is absolutely pure.

DENTITION AND ITS TREATMENT.

THE subject of dentition is one of considerable interest to dispersing chemists, as they are frequently asked for a teething powder, and it is important that they should give one which will at least do no harm. The period of teething is associated in the minds of mothers with numerous ailments, and they think that any illness from which the child may suffer at the time is due to the teeth, and imagine that they can get a powder or some other kind of medicine which will at once soothe the child and remove all disturbance from the system. This is, of course, a mistake, as the process of dentition is not confined alone to the eruption of the teeth, but is a process of evolution going on simultaneously in the general system. Hence may occur outbreaks on the skin and altered conditions of the intestinal juices, causing fermentation in the bowels, and thus griping and diarrhoea. The child is also more susceptible to the influence of cold, and this may lead to cold on the chest and cough, or even to bronchitis and inflammation of the lungs. The nervous system also suffers, and inflammation of the ear may be induced through the nervous sympathy that exists between the ear and the teeth; or the much-dreaded convulsions may make their appearance in children who inherit an unstable nervous system. The condition of the mouth itself, especially in badly nourished children, is often a cause of anxiety to mothers, being often much inflamed and sometimes ulcerated.

But teething powders are usually required for the purpose of obtaining rest, not so much to the child as to the mother; hence an impression is acquired that the popularity of certain soothing syrups and powders is due to opium in some form or other. There is no evidence that this is the case with the three or four most popular of the preparations sold; we do not remember that the presence of opium or morphia has ever been proved in any of them, though it has been alleged, and it would be ridiculous to deny that the testimony of hundreds of thousands of mothers would be practically unanimous as to the real benefit conferred by some of these preparations, a testimony not to be ignored even for a medical prejudice. Children are peculiarly susceptible to the action of opium, and chemists, if ever they make up any preparation for infantile complaint, will always do well to let that drug and its derivatives severely alone. A similar objection does not apply to the use of bromide of potassium, which in doses of gr. iij. to vij. is often of great benefit in cases of extreme restlessness, and especially where other members of the same family have had convulsions during teething. For any case of convulsions the duty of the chemist should be limited to the dispensing of a medical man's prescription.

The restlessness is often accompanied by increased temperature, and hence the use of antimony, a drug which should not be given to any infant without distinct medical sanction; mindererus spirit, or even a good dose of castor oil, will frequently accomplish all that is required in the way of soothing the child and reducing the temperature. For the purpose of checking diarrhoea a useful medicine is the aromatic chalk powder, in doses of from three to five grains; while for counteracting the vitiated acid secretion of the stomach and intestines the carbonate or subnitrate of bismuth, gr. ij. to v., or the oxide of zinc, gr. j., is of great service. The honey or the glycerine of borax is useful for the inflamed and tender mouth; and the internal use of chlorate of potash, gr. v., is much recommended if ulceration has taken place.

It is, of course, impossible to lay down rules for the administration of drugs generally without reference to the particular case to be treated. The only advice that can safely be offered is that the chemist should content himself

with giving that which will fulfil the first indication of any medicine, *i.e.* that it shall do no harm; and refrain from giving on his own responsibility any compound containing any derivative of opium or other powerful medicine.

CONGRESS OF CHAMBERS OF COMMERCE.

THERE is to be a Congress of Chambers of Commerce of the British Empire at the Colonial Exhibition on Tuesday and Wednesday next, July 6 and 7, from 10 A.M. to 4 P.M. About fifty British and all the chief Indian and Colonial Chambers will be represented. Papers are to be read and discussions taken on the following subjects:—

Emigration, especially with a view to direct the stream of emigrants more exclusively to the British Colonies. Postal and telegraphic reform, and the possibility of establishing penny postage throughout the Empire. Imperial federation. Codification and assimilation of the commercial law of the Empire. State guarantee of war risks, as affecting the security of Anglo-Colonial trade. The silver question, from the bi-metallistic and the mono-metallistic point of view; and bills of lading reform.

The Conference-room does not conveniently accommodate an audience of over 250, and it is therefore proposed to restrict the attendance to three delegates for any one topic. The time for the discussion of each head of the programme is estimated at 1½ hour. The opener of a discussion will be allowed twenty to thirty minutes, and subsequent speakers ten minutes each. In divisions upon the resolutions each Chamber counts for one vote.

ANCIENT ALCHEMIST'S LABORATORY.

WE have been asked to direct attention to the fact that, in connection with the British Association meeting, which is to be held in Birmingham in the autumn, there is to be an exhibition, and as part of it Messrs. Southall Bros. & Barclay are desirous of representing an ancient alchemist's laboratory. In furtherance of this object they have received most generous help from Professor Redwood, Henry Irving, Esq., Messrs. Corby & Co., Messrs. Godfrey & Cooke, and others, and they will be greatly obliged to any gentlemen who possess old utensils, implements, fixtures, &c., if they will forward particulars, should they be disposed to lend them for the occasion. The exhibition will remain open for about six weeks, commencing the latter part of August.

An alchemical laboratory, with all its equipment of apparatus and chemicals, labelled in accordance with the scientific views or rather fancies of the middle ages, offers scope for much interesting labour, and would be most instructive. A reproduction of much of the glass and earthenware and of some of the apparatus would doubtless be necessary to provide a complete laboratory, and the Birmingham firm will do well if on this occasion they can sufficiently indicate the arrangement so as to illustrate a comparison between the then and the now. We have seen these ideas brought into rather sharp proximity. In Leipzig they show the laboratory where Dr. Faust was first visited by Mephistopheles. It is a tolerably deep cellar, and is fairly well furnished. But our faith in the pretensions of this institution was a little shaken by a crucible of somewhat familiar appearance, which on closer examination we found decorated with the Morgan Crucible Company's trade-mark and the homely address—Battersea.

SCIENTIFIC FARMING.

IT is now generally recognised all the world over that English farming is the most skilful and productive extant; tilling is better, crops are heavier, and though of recent years there has been much grumbling as to actual remuneration, it has not been asserted, nor can it be proved, that crops have diminished, unless through bad weather. Foreign competition and a higher rate of living—more particularly the latter—are the causes of any distress which may exist. A revolution has taken place in agriculture during the past fifty years. On the Continent Liebig and others, in this country Sir John B. Lawes, his immediate coadjutors, and many other chemists have devoted their money and great technical skill to promote the introduction of scientific methods into agriculture. For a long time farmers did not respond, then they recognised the utility of artificial manures, but have worked with them in a more or less aimless fashion; latterly they have come to recognise that their calling is a scientific one, and that the rule of thumb method of dealing with crops is no longer adapted to the faster life and the fiercer competition of the present day. As an evidence of the growing interest in the science of farming it has been lately announced that the University of Edinburgh has established a degree of Bachelor of Science in Agriculture. For many years the University has supported a chair in agriculture, but no great array of students responded for some time; indeed it is on record that the class on one occasion stuck a notice on the class-room door to the effect that he would not meet that day. Latterly however, a new and energetic young professor has created some stir amongst young farmers: they attend the course of training in good numbers, and provision for practical outdoor demonstrations has been made.

To obtain the new degree it will be necessary for the student to attend science classes for three years, in addition to pursuing an ordinary course of study. The first year he must spend in the University of Edinburgh, the second on a farm, and the third at the university. A certain knowledge of geology, engineering, veterinary practice, and agricultural mechanics will also be necessary. He will go forth with a full perception of the truth that concentrated foods and manures are important factors in his calling and are likely to be still more so. And he will know perfectly well that his only safety will lie in his knowledge or application of chemical analysis. The quality of soils, foods, and manures can be determined by the analyst alone, and the farmer's university training will have carried him far beyond empirical methods, and he will seek assistance more frequently than now from the chemist. What Edinburgh has decided to do other universities may naturally be expected to follow, and in a few years a new order of agriculturists will have arisen. It may appear rather odd to write down "John Bull, B.Sc.," but, we shall get accustomed to it. Pharmacists will be brought intimately into contact with these scientific farmers, as they have always been with the less learned class, and they must fit themselves to do business with them.

AN IMPROVED BUSINESS SPIRIT.

SEVERAL refreshing and invigorating breezes have swept over our correspondence columns of late. Not long ago several writers proved to us that even the long mourned-for patent-medicine trade had plenty of life in it yet, a theory which we have long held and patiently promulgated. Without exactly endorsing the advice of the philosopher who declared that the world wants to be deceived, and that it ought to be indulged in its desire, we say, and have often

said, that the world wants, and will have somehow or another, put-up medicines—good ones if they can be obtained, rubbish if there is no alternative. Chemists can meet this demand more satisfactorily than any other class, and it is quite legitimate that they should do so. We may claim that we have done something by means of the publication of formulæ and labels to assist chemists in this section of their business, but we must repeat our refusal to take any interest in the applications which still reach us daily as to the limitations of safety in imitating the property of other people, although it would seem that our peculiar views in this respect are to cost us dear.

But the most hopeful chance for chemists and druggists is that which has come prominently forward in our columns since the occasion of the suggestive prosecution of Mr. Whiteley for the sale of cyanide of potassium without the legally necessary formalities. That pharmacists should be the class to minister to the scientific wants of the community is a proposition which everyone, in or out of the trade, would admit; that they have not yet fully met those wants is unquestionable. Two contributors have offered valuable advice lately in regard to the requirements of the photographic art, and one follows up his first letter by some practical hints which we think will be welcomed in a good many quarters. To a properly trained pharmacist a comprehension of the science of photography cannot be difficult, and to such an one it has been abundantly shown that solid prospects of profit are offered in return for the investment of some money, some diligence, and some time in the acquirement of a degree of practical skill sufficient at least to make conversation with amateurs and professionals intelligible. The moral of these remarks is that the hoped-for better times for chemists will come when a spirit of healthy energy permeates the whole body, and when it is recognised that if driven out of one city there are many others to fly to where the special training and knowledge of the pharmacist will make him welcome, and should make him prosperous.

CURIOUS BREAKAGES.

MR. HENRY LAMPLUGH, whose letter appears in our correspondence columns, is an apparently hale and hearty old gentleman, who looks considerably younger than his age, which is nearly eighty. We found him seated at his desk on the first floor of his establishment at Holborn Circus, assiduously engaged in the study of the last copy of THE CHEMIST AND DRUGGIST. After having complimented our representative upon the recent change in our journal, Mr. Lamplugh at once plunged in *medias res* by giving a full statement of his views on the subject of curious breakages. "I have read all the letters in your journal," said he, "and besides that I have had no end of correspondence myself about the broken bottles. Why, the other day I received a complaint from a customer in the West Indies, informing me that two dozen bottles had exploded there. In our factory over the way we lost no less than 552 bottles in a single day. I reckon that altogether I must be about 2,000% out of pocket through this business." "What is the reason of the breakage?" "Well, your correspondent 'Own Proprietaries' almost hits the mark; his letter is undoubtedly the best that has appeared on the subject, but he is wrong in talking about excessive heat being employed in drying. This is impossible, as soda will not bear excessive heat without losing its effervescing properties. The fact is, we have lately had occasion to buy our raw material in another quarter, and we have found that the saline manufactured with the bicarbonate of soda supplied by our new friends is satisfactory in every respect, and I have not the slightest doubt that

the chapter of 'curious breakages' will soon be closed so far as our firm is concerned. It is only fair to our late purveyor to add that a distinguished chemist who analysed material supplied by him declared it to be chemically pure. In our works over the way we have a large room in which the raw material is dried by means of hot-air pipes passing under the floors, an even temperature being steadily maintained. We formerly were in the habit of heating this room by means of gas, but sometimes the soda bicarbonate got spoiled by the smell of the gas, and we also thought that sulphur might be generated, which would act injuriously upon the goods. But the hot-air tubes are quite a success.

"There is another reason which may frequently cause tumblers, especially those made of Bohemian glass, to break. I believe it to be this: that in the manufacture of this glass the ashes of a small, prickly, yellow plant—which you frequently find growing wild along railway tracks—are employed, and glass made in this manner is very liable to break. We are careful always to use horn spoons for mixing, and the breaking of these tumblers without any apparent reason—which frequently occurs in our establishment—must therefore have its cause in faulty annealing of the glass. I could tell you lots of anecdotes out of my own experience on the subject of curious breakages, and may do so next time you pass by."

Trade is pretty brisk with Mr. Lamplough, and the extreme depression complained of in other quarters has not, the head of the firm assured us, cast its shadow on the Holborn establishment. "We do a very nice dispensing business," Mr. Lamplough said, "though nothing to what it was about fifty years ago, when I well remember that there resided in Hatton Garden alone over fifty 'carriage customers' of ours. We sell a large quantity of saline over the counter: yesterday, 850 people called for draughts, and on hot days we have had as many as 1,250." This statement would seem to be corroborated by the number of customers coming and going, apparently without interruption, while we were engaged in this conversation, which was by this time proceeding in the shop.

"Australia does not quite come up to our expectations as a market for pyretic saline, but we do a very large trade indeed with the West Indies, also a good deal with South Africa. But it is to India, and more particularly to Burmah, that we look for future custom; and I am convinced that we shall shortly, and comparatively suddenly, find a surprising demand in Burmah for British goods." Upon what grounds Mr. Lamplough founded this belief did not transpire.

Personalities.

THE QUEEN has conferred honours upon various gentlemen who have been prominent in their activity in connection with the Colonial and Indian Exhibition. The following are the names most familiar to pharmacists: Graham Berry, Esq., Executive Commissioner of Victoria, becomes a Knight Commander of the Order of St. Michael and St. George, and Joseph Bosisto, Esq. (Victoria), G. H. Hawtayne, Esq. (British Guiana), and H. E. Wodehouse, Esq. (Hong-Kong), become Commanders of the order. Dr. George Watt (Indian section) has received the order of the Indian Empire.

DR. OLIVER WENDELL HOLMES'S MEDICAL CAREER. Dr. Holmes was educated at Harvard University, where his poetical and literary talents soon brought him into notice. He next studied law for a year, and afterwards devoting himself to medicine he graduated as M.D. in 1836. In 1839 he was appointed to the Chair of Anatomy in Dartmouth College, which he resigned two years later; and, after practising as a physician in Boston for some years, he was appointed Professor of Anatomy and Physiology in the Medical School of Harvard University in 1847, a post which he held down to 1882.

FRENCH CORRESPONDENCE.

(From our Special Correspondent.)

PARIS GROCERS MAY SELL VICHY LOZENGES.—The Paris Court of Appeal has decided this question against the pharmacists. Some time since the Seine-et-Marne pharmacists, organised as a syndicate, prosecuted Puisais, a grocer of Provins, for selling the Vichy lozenges manufactured by the company managing the mineral springs of the same name. The syndicate contended that the lozenges, being a medicinal preparation, could only be sold by pharmacists, and such was the decision of the Court of Provins. But on appeal the Paris Court has reversed the judgment, holding that Vichy lozenges are not medicinal, but scarcely anything more than a hygienic product, like orange-flower water, which anyone is at liberty to sell. The fact, adduced by the syndicate, that the lozenges are recognised and described by the French Codex, was held by the Court to be of no value, as the same authority treats in the same manner of rice powder, Cologne water, and such preparations. Hence judgment and costs were given against the pharmacists. A piquant addition to this item is that, almost at the same time, and in a precisely similar case, the Court of Poitiers was recording a contrary decision. Hence it is legal for grocers to sell Vichy pastilles within the jurisdiction of the Paris Court, and illegal in the Poitiers district. But lawyers have long since accustomed the public to such contradictions, and inconsistency is one of their dearest privileges in France—and elsewhere.

PASTEUR'S TREATMENT AS COMPARED WITH OTHER VACCINATIONS.—Dr. Grancher, who operates under Pasteur's directions, and acts both as his assistant and medical adviser, lately delivered a public lecture in which he gave some statistics respecting the comparative efficacy of various sorts of vaccinations. Before Jenner's discovery, out of 1,000 persons catching the smallpox 500 would die, while now out of the same number, 1,000, of vaccinated persons only 23 succumb. From these data, Dr. Grancher calculates what he calls the co-efficient of prophylaxis by dividing 500 by 23. The result, 21.7, is the co-efficient in question.

For charbon the death-rate was 120 to the 1,000; it is now only 5 among the vaccinated animals. Hence the co-efficient is 24. For hydrophobia the rate was 160 deaths for the 1,000 persons bitten by animals proved to have been mad. The records of Pasteur's laboratory now show the rate to have been 7 out of 1,000 patients treated. Hence the co-efficient 22.85. Each number taken separately means very little, but when the three, namely, 21.7, 24, and 22.85, are placed side by side, the figures are interesting, instructive, and not a little eloquent.

MEDALS TO INTERNES (PHARMACISTS).—On Tuesday, June 29, the usual distribution of prizes took place at the great amphitheatre of the Public Assistance, in the Avenue Victoria, Paris. The following are the names of the laureates among pharmaceutical internes at the city hospitals to whom prizes were awarded:—Gold medal, M. Heret (Hôtel Dieu); silver medals, M. Winter (St. Antoine), M. Cousin (Necker); honourable mentions, Messrs. Gosselin (Hôtel Dieu), Gérard (Trousseau), Genevriér (Salpêtrière), and Choaruy (Lariboisière); accessit in books, M. André (Incurables).

The newly appointed internes were installed on July 1. In the February number of this year, p. 89, THE CHEMIST AND DRUGGIST explained the way in which such appointments are secured.

REPORTED PREPARATION OF FREE FLUORINE.—It is whispered at the College of Pharmacy, where M. Moissan has a laboratory, that the young professor a day or two since succeeded in obtaining free fluorine. The particulars of the process are not divulged, but it is understood that a paper on the subject will soon be read before one of the scientific bodies of this city. M. Moissan, it will probably be remembered, incidentally spoke of his efforts to obtain free fluorine in a lecture delivered at a meeting of the Paris Chemical Society, which was previously reported in THE CHEMIST AND DRUGGIST.

SIR JAMES PAGET, of London, was on June 29 elected a Foreign Associate Member of the French Academy of Medicine. The vote in his favour was fifty-seven out of sixty-four, a very great compliment.

ÖZOKERITE MINING IN GALICIA.

THE özokerite and petroleum works at Boryslav, in Galicia, which have just come into possession of a British company, formerly belonged to about thirty or thirty-five different proprietors, by far the most important of these being the Galician Credit Bank at Lemberg, the firm of Gartenberg, Liebermann & Waggmann, in Boryslav, and the Société Française de Cire Minérale et Pétrole. It appeared desirable to concentrate into the hands of one body the ownership of the works, and negotiations with London houses led to the formation of a limited company, as mentioned in our issue of June 12.

In 1860 özokerite mining was commenced at Boryslav, and in 1877 the total yield amounted to 350 waggons (1 waggon = 10,000 kilogrammes or ten tons). The output steadily increased until 1880, when a marked decline became apparent; but from 1883 the yield again increased, and last year 1,263 waggons were brought to the surface, the largest total yet attained. The yield for the present year is anticipated at about the same as in 1885—in fact, it is thought that an annual production of 1,200 to 1,300 waggons will about represent the yield for the next few years. The market price of crude özokerite during the last three years has varied between 25 and 35 florins per 100 kilos.; the present quotations being about 28½ to 29½ florins for the first quality, 26 florins for the second quality, and 20 to 22 florins for inferior özokerite, mixed with sulphur and impurities. The cost of production of crude or unrefined özokerite averages 24 florins per 100 kilos. Observations extending over a period of 22 years (1860 to 1882), and a surface measuring 800 square mètres, on which 8 pits have been sunk to a depth of 100 mètres (328 feet), show the average percentage of wax in the ore to be 4 per cent. (weight). The layer of ore of this quality extends, it is said, to at least 180 mètres (590 feet) below the surface. The extent of the özokerite layers at Boryslav and Walanka is estimated at 70 hectares (173 acres), while the percentage of valuable minerals in the ore varies from 2 to 7 per cent. The total yield of özokerite at Boryslav since 1860 is estimated at 133,130 tons, representing a value of about 33,500,000 florins (about 2,300,000£.). It is calculated that about 12 per cent. of the existing quantity of özokerite has been brought to the surface, and that, with the system of working now practised, it would take another forty years' mining to exhaust the mines; but if modern machinery were introduced this term might be reduced to twenty years. Austria is still by far the largest consumer of özokerite; her share amounting to 4,780 tons in 1885, of which the Drohobycz factory alone took 2,300 tons. But for some years the consumption of the mineral has been on the decline in Austria, and it is now little more than one-half of what it was in 1880. Russia, where ceresine works were erected in 1884, now runs Austria close, having taken 3,940 tons in 1885. Germany imports upon an average 420 tons per year, and Britain 180 tons; but some of this quantity is no doubt exported again to the United States, which, we know, draws its requirements from these countries. Italy at one time took a fair quantity of özokerite, but since 1882 the demand from that quarter has stopped; while France only once, in 1873, bought a small quantity.

THE ROYAL HOLLOWAY COLLEGE.

THE Holloway College for Women, opened by the Queen on Wednesday in the presence of a brilliant company, is in all respects a magnificent institution. For years past, says the *Times*, those who have visited the neighbourhood of Egham have seen, with no little wonder and admiration, this institution as it grew; now it is officially pronounced complete, and all that remains is to set it to work. It is the magnificent hobby of a benevolent millionaire. It is the offering of the late Mr. Thomas Holloway to his country and to the cause of women's education. Like many a splendid creation, it springs from an origin which is prosaic, not to say humble. The source of this princely scheme and more than princely habitation, of this building which in size at all events outdoes Chenonceau and Chambord, is neither more

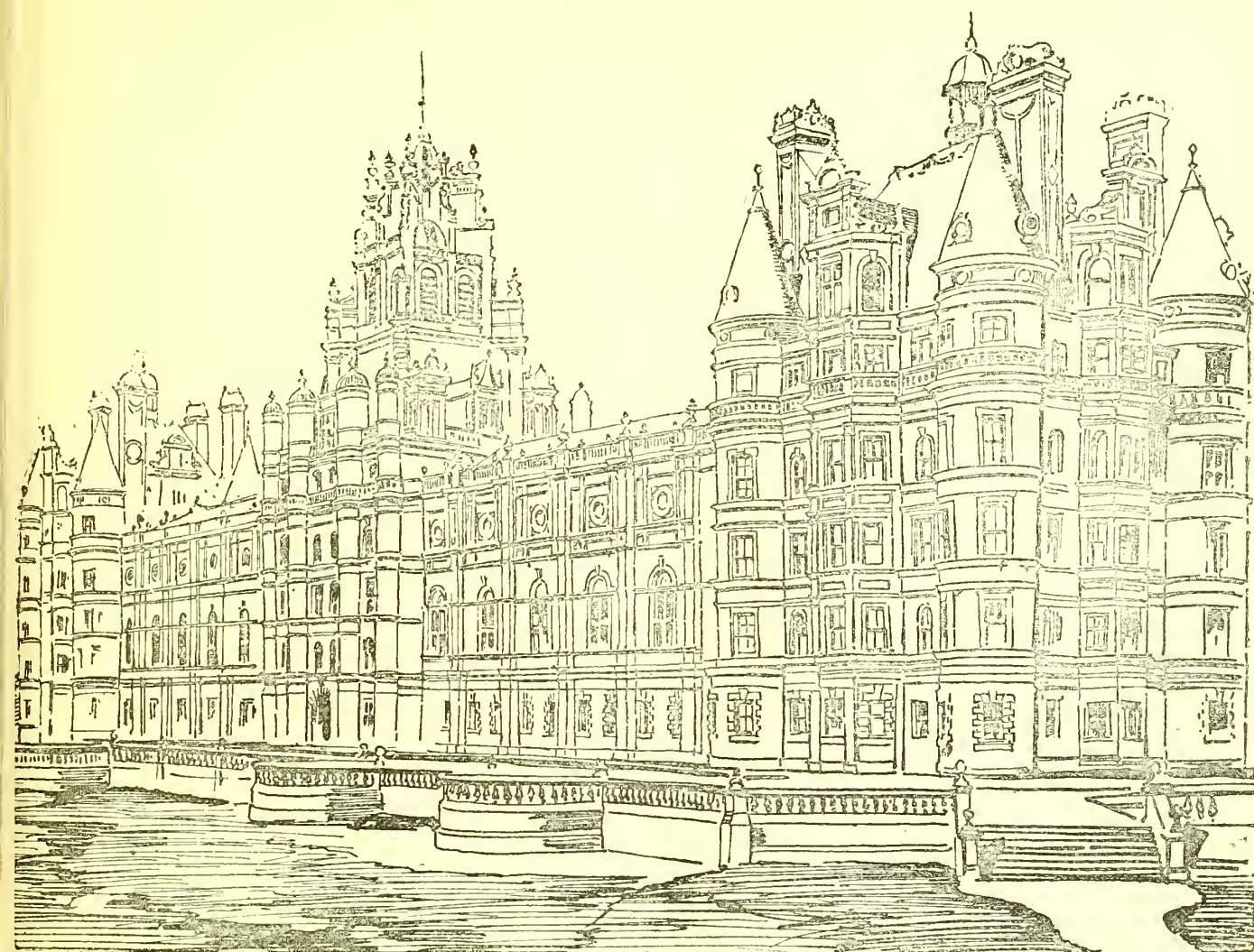
nor less than the pills and the ointment that our fathers knew so well. The vision of the Laureate's Princess,

All wild to found an University, for maidens,

has been realised not by royalty, but by the man who may fairly claim the title of the father of modern advertising. Mr. Holloway made an enormous fortune, and he has returned a great part of it to the public from whence it came. At a cost of not less than 800,000£. sterling he has built, furnished, adorned, and endowed this great college for the use of the women of the middle and upper middle classes. Judged by the mere amount, Mr. Holloway's bequest stands almost alone among modern benefactions, for though millionaires are many, the inclination to devote their millions to some great public object is rare indeed. The gift of Mr. Peabody offers almost the only recent parallel to that of Mr. Holloway in this country; and in the United States, of which Mr. Peabody was a citizen, even the greatest foundations, like Vassar College and the Cooper Institute, can hardly rank with the college at Egham. Strange as it may sound we have to go back to Cardinal Wolsey and the foundation of Christ Church before we can meet with so large an educational bequest as this.

The building itself, which is the work of an architect not previously famous, Mr. W. H. Crossland, is in the style of the French Renaissance, and has been suggested by the great castles on the Loire, which are among the chief architectural glories of France. On the whole, the effect is stately and imposing, and nothing can exceed the completeness with which all has been supplied that the most lavish fancy could suggest as desirable aids to education. Every student is to have two rooms, and for every six there is to be a common room for conversation and society. There is a chapel with many claims to be considered a noticeable piece of ecclesiastical architecture. There is a library, amply furnished with books and fitted almost too luxuriously. More remarkable still is the picture gallery, which contains a collection of English pictures, on which Mr. Holloway is said to have spent no less than 90,000£., and which is certainly an important gathering of works of the modern English school, whether we think them all to have been worth what was paid for them or not. Nobody would say a word against Sir John Millais's "Princes in the Tower" and "Princess Elizabeth"; Landseer's "Polar Bears" is a fine example of the painter's later manner; and Mr. Long's "Babylonian Marriage Market"—an odd subject to choose for the adornment of a college for English girls—is, at all events, the artist's best picture. Then, more important than the picture gallery, is the endowment fund, which amounts to some 200,000£.—that is, to 6,000£. or 7,000£. a year, which ought to go very far towards providing instruction for as many students as the college will hold, and scholarships for some of those students who may need them. As regards the curriculum of studies, all the subjects of liberal education are to be recognised equally. Mr. Holloway had no prejudice in favour of classics, and classics are not to help a girl to a better position in the college than are mathematics, or science, or modern languages. The same large toleration prevails with regard to religious instruction and religious services. The Archbishop of Canterbury is a governor, but so is Mr. Samuel Morley, and the teaching is to embrace an even wider field of difference than is suggested by those two names. If it is to have any definite character, it is to be such as we described a week ago when we wrote that "the desire of the founder was that the religious teaching of the college, though free from any sectarian influence, should be such as to impress forcibly on the minds of the students their individual responsibility and their duty to God." At first it used to be reported that all kinds of strange devices were to be resorted to for the purpose of carrying out this view; but those provisions seem to have been dropped, and a widely liberal ideal of religious teaching has been trusted to realise itself by no extraordinary means.

It is plain that the foundation has its good and its weak side. On the one hand, the cause of women's education can hardly fail to receive a great stimulus from the act of Mr. Holloway, and from the sumptuous provision which his liberality has made for it. People who have not been touched or converted by the modest but very real work of Girton and Newnham, of Somerville and Lady Margaret, will be struck and perhaps persuaded by Mr. Holloway's three-quarters of a million, and by the college which Her Majesty has opened



and called Royal. In time this conversion will have its good effects, and they will be widely felt. But, on the other hand, there are difficulties and drawbacks attached to such an isolation foundation which practical people ought not to underrate. The undertaking, it cannot be denied, has had a wilful air about it from the beginning. It has been carried out without consultation with those who had learned by long and varied experience what were the needs of women's education, and how they should best be supplied. Mr. Holloway formed his idea, and his idea ran away with him. For example, his council or governing body, on which the success of the college as a practical institution must so largely depend, can hardly be called a practical body. It contains no ladies whatever; while the councils of the women's colleges at the two Universities contain as many ladies as men. Its members, again, are respectable, and some of them are distinguished; but a minute acquaintance with education is not a feature of any one of them, except the Archbishop; and how much time will he be able to spare from his multitudinous duties to give to Holloway College? Again, if the college is to be something else than a splendid failure, it must be furnished with first-rate teachers. But, while no governor is a woman, it is said that all the teachers, without exception, are to be women. This is a great compliment to the efficiency of the sex, but it is one which not even the most ardent advocates of the movement would say is well deserved as yet. In a few years, we trust, the supply of first-rate women teachers will be equal even to this demand, but just at present it is not so. The college, then, appears to be in a dilemma. Either the teaching staff will be something less than first rate, or the rule must be modified and male lecturers admitted. Even then, however, the difficulty which

has been felt at Girton—only two miles from Cambridge—will be felt much more acutely; it will not be easy to get the best lecturers, who are always busy, to come so far from either University or from London. This is only one of the difficulties which a practical eye foresees in the working of this huge and magnificent machine. It is true that time and money and will can overcome most difficulties; and, no doubt, they will overcome this and many others at Holloway College. But, ungracious as it may seem to say so it is a reflection that must occur to everyone that Mr. Holloway might have avoided them altogether if his munificence had not been quite so entirely self advised. Half the money laid out in buildings and endowments in London, at Oxford and Cambridge, at Manchester, and at Glasgow, would have provided the young women of Great Britain with all the educational supplies that they would have been likely to need for a century to come.

[Our view of the College is from a photograph by Vernon Heath, and is supplied to us by the proprietors of the *Pall Mall Gazette*, in which journal it first appeared.]

It will be reassuring to those of our readers who occasionally glance through English journals to hear that there is a fair probability that the expression "bye-laws," as presented with the superfluous vowel, will soon be a thing of the past. —*Western Druggist*. [Scarcely so, friend W. D. The *Times* and THE CHEMIST AND DRUGGIST are, so far as we know, the only authorities which spell by-laws correctly, but the Pharmaceutical Society of Great Britain sticks to the *e*. It helps to fill up.]



[The] following List has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent:—

- Acid.**—6965.—May 24, 1886. C. D. Abell. A communication from the Farbwerke vormals Meister Lucius, and Brüning, of Germany. Improvements in the production of compounds of levulinic acid with the aromatic hydrazines.
- Administration of dry medicated vapour.**—6722.—May 24, 1886.—W. H. Blenkinson.
- Alumina Compounds.**—6573.—May 15, 1886.—R. Weiss. Process for the production of alumina compounds applicable for bleaching.
- Ammonia.**—6999.—May 24, 1886.—W. C. Wren. A process of and apparatus for distilling ammonia.
- Anhydrous Sulphuric Acid.**—6754.—May 20, 1886.—R. H. Wilson. Improvements in the manufacture.
- Bi-chromate of Potash.**—6468.—May 13, 1886.—W. Simon. For improvements in the manufacture.
- Bottles.**—5703.—April 27, 1886.—S. Laycock.—6085.—May 5, 1886.—J. M. Day.—6506.—May 14, 1886.—W. P. Wilson.—6622.—May 17, 1886.—W. L. Wisc. A communication from L. Meynier, of France.—7037.—May 26, 1886.—W. Bruce and W. Thorne.
- Bottle Stopping.**—6115.—May 5, 1886.—C. Dollmann. Improvements in stoppering bottles and other hollow vessels.—6478.—May 14, 1886.—C. Herbert.—6481.—May 14, 1886.—J. Greaves.—6613.—May 17, 1886.—F. White.—6630.—May 17, 1886.—J. C. Schultz.—6636.—May 18, 1886.—J. Greaves.—6764.—May 20, 1886.—S. Bennett, S. E. Cooke, and W. Eccles.—7158.—May 27, 1886.—J. C. Schultz.
- Bromine Preparations.**—6191.—May 7, 1886. W. D. Borland. The manufacture of bromine preparations for sanitary and other purposes.
- Carbonate of Soda.**—5683.—April 27, 1886.—J. Hargreaves, T. Robinson, and J. Hargreaves. Improvements in obtaining carbonate of soda and sulphur from sulphate of soda, and in apparatus employed therein.
- Carbonic Acid.**—6492.—May 14, 1886.—W. H. Munns. A communication from P. Farmaux, of France. Apparatus for producing carbonic acid under constant pressure.
- Chloride of Nitro-benzyl.**—6001.—May 3, 1886.—H. Baum. A process for the production of chloride or bromide of nitro-benzyl.
- Colouring Matters.**—6413.—May 12, 1886.—J. H. Johnson. A communication from the Badische Aniline and Soda Fabrik, of Germany. The preparation from gallic acid of a yellow colouring matter suitable for dyeing and printing.
- Combined Receptacle for Soap, &c.**—6048.—May 4, 1886.—E. Bond. Receptacle for a piece of soap, a toothbrush, and a box or pot for tooth-powder or other substance, or a sponge or other article.
- Deodorant and Disinfectant.**—6966. May 24, 1886.—H. M. Caldwell.
- Dietetic Compounds.**—7035.—May 25, 1886.—J. N. Beach.
- Distillation of Tar.**—5944.—May 1, 1886.—J. Yates.
- Distilling Volatile Liquids.**—6842.—May 21, 1886.—T. T. Mathieson and J. Hawliczek.
- Extraction of Essences.**—6259.—May 8, 1886.—C. D. Abel. A communication from La Société Anonyme des Parfums naturels de Cannes, France.
- Fertilising Compounds.**—5686.—April 27, 1886.—H. J. Allison. A communication from W. S. Pierce, of United States.
- Feeding Bottles.**—7050.—May 26, 1886.—J. W. Jackson.
- Filtration and Purification of Liquids.**—6893.—May 22, 1886.—G. Sagasser.
- Indolderivatives.**—7137.—May 27, 1886.—C. D. Abel. A communication from the Farbwerke vormals Meister, Lucius and Brüning, of Germany. Improvements in the production of indolderivatives from the compounds of the aromatic hydrazines with the ketones and aldehydes.
- Insect Destroyer.**—5930.—May 1, 1886.—T. Terrell. A chemical compound for destroying insects.
- Media for Respirators.**—5910.—May 1, 1886.—J. G. Lorrain. Improved media or materials for respirators and medical or surgical dressings or bandages.
- Medicinal Extracts.**—6696.—May 18, 1886.—P. Joske. The preparation of medicinal extracts from the Kava or Yagena plant, scientifically known as the "Piper methisticum," and the preparation of beverages from and the treatment of spirit with such extract.
- Mixing Chloroform with Water.**—6588.—May 17, 1886.—C. E. Landon and J. Wilson. An improved method of mixing chloroform with water.
- Para-rosanilin.**—6000.—May 3, 1886.—H. Baum.
- Promoting Respiration, &c.**—6215.—May 7, 1886.—C. Breuillard. Improvements in aërotherapeutical apparatus for promoting respiration and for other purposes.
- Pulverising, &c., Chemicals.**—7132.—May 27, 1886.—N. Greening. Improvements in apparatus for pulverising, crushing, and sifting minerals and chemicals.
- Purification of Perfumes.**—5936.—May 1, 1886.—E. Edwards. A communication from E. A. Viteau, of France. An improved process for the complete purification of perfumes in the manufacture of which sulphuret of carbon has been used.
- Soap.**—6170.—May 6, 1886.—W. Green. Improvements in the manufacture and treatment of soap.
- Stopper Fastener for Poison Bottles.**—6892.—May 22, 1886.—F. W. Pittuck and J. C. Snowden.
- Sulphate of Alumina.**—6824.—May 21, 1886.—D. G. McLellan. A communication from P. K. Oushkoff and J. Y. McLellan, of Russia.
- Sulphate of Soda.**—5682.—April 27, 1886.—J. Hargreaves, T. Robinson, and J. Hargreaves.
- Sulphur.**—7129.—May 27, 1886.—J. V. Johnson. A communication from C. Daboïs, of France. Apparatus for extracting and subliming sulphur.
- Syringes.**—6415.—May 12, 1886.—J. B. Simas, J. A. Mansfield, and J. Skilling.
- Tonic Bitters.**—6899.—May 22, 1886.—S. Waters.
- Tooth-ache Specific.**—6105.—May 5, 1886.—W. C. Wilmore.
- Treating Hydrochloric Acid.**—5673.—April 27, 1886.—J. Hargreaves, T. Robinson, and J. Hargreaves. Improvements in treating hydrochloric acid to obtain chlorine, using the said chlorine in the manufacture of bleaching powder, and in apparatus therefor.
- Vaccination Shield.**—5716.—April 27, 1886.—R. E. McGowan.
- Wiring Corks in Bottles.**—6197.—May 7, 1886.—N. B. Abbott. A machine for.

Specifications published during the month.

(Postage, 1*d.* each extra).

1885.

- 4,446. C. J. C. Bailey and A. Basden. Airtight stopper. 6*d.*
- 5,383. A. G. Brooks. Refining glycerine. 6*d.*
- 5,514. B. H. Thwaite and J. Pedder. Utilising, &c. liquid hydro-carbons as carbonising and neutralising agents in the alkali processes, &c. 6*d.*

- 6,002. J. Wilkinson. Stoppering bottles containing aerated liquids. 6*d.*
 7,054. M. Stephenson. Closing bottles, jars, &c. 8*d.*
 7,126. J. G. Lorrain. Chemical precipitation, &c. 6*d.*
 7,136. E. F. Trachsel. Producing hydrate or carbonate of strontium or barium. 6*d.*
 7,416. E. Stiff and G. J. Chambers. Stoppering bottles. 8*d.*
 7,522. D. W. Fessey. Stopper for jars, &c. 6*d.*
 7,781. C. Cheswright. Closing, &c., bottles, &c. 8*d.*
 7,836. T. J. Williams. Medicine, &c. bottles. 6*d.*
 7,958. W. H. Hartland. Filtering, &c. water. 8*d.*
 7,972. O. C. Hagemann. Purifying glycerine. 8*d.*
 7,973. O. C. Hagemann. Purifying, &c. glycerine. 8*d.*
 8,051. O. C. Hagemann. Treating soap leys. 6*d.*
 8,186. T. Sutcliffe. Tools for manufacturing bottles for aerated waters, &c. 8*d.*
 8,250. F. Walton. Oxidised oil, &c. 8*d.*
 8,351. W. H. Symons. Disinfectant tablets. 4*d.*
 8,499. W. Allen. Acid taps, &c. for chemical works. 6*d.*
 8,750. T. Brown. Evaporisers for perfume, &c. 8*d.*
 8,810. G. Brownen. Extracts, &c. from the coca-plant. 6*d.*
 8,912. J. B. Spence. Treating sewage. 4*d.*
 10,147. J. C. Mewburn. Treating tannic extracts. 4*d.*
 12,513. P. Parker. Water filters. 6*d.*
 13,947. T. Sutcliffe. Glass bottles, &c. 8*d.*
 15,476. W. Lawson. Bottle capsules. 8*d.*

TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"Any person who has good grounds of objection to the registration of any of the following marks may, within two months of the date of this journal, give notice in duplicate at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1883, of opposition to such registration." All communications relating to patents, designs, or trade-marks to be addressed to H. Reader Lack, Esq., Comptroller-General of Patents, Designs, and Trade-marks, Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

From the "Trade Marks Journal," June 30, 1886.

- SHIELD with steam-vessel and inverted triangle thereon within a circle; for chemical products used for cleaning and repairing boilers. By Lionel Reynaud, 23 Rue de la Chaussée d'Antin, Paris. 46,900.
 W. B. & Co. above triangle with spots, within circle, and words "extra refined;" for arsenic. By Westlake, Betteley & Co., Gawton, Beerferris. 46,614.
 ORNAMENTAL LABEL, showing rising sun and the globe, with Chinese lettering; for aniline dyes. By the China and Japan Trading Company (Limited), 4 East India Avenue, E.C. 49,081.
 PERFECTION DOG SOAP and other wording on circular label; for dog soap (49,842); BUFFALO, figure and word; for chemical substances (49,843); and CLARKE'S PUPPY FOOD on oblong label; for food (50,203). By W. G. Clarke & Sons, Anchor Patent Biscuit Works, Linthouse, London.
 CHAMPIGNON SAUCE, other wording and royal arms, on label; TURTLE SAUCE, other wording and figure of turtle, on label; for sauces (50,318, 50,321); BATTY'S PICCALILLY, and other wording, and BATTY'S MIXED PICKLES, and other wording, on ornamental labels; for pickles (50,323, 50,324); BATTY'S NABOB PICKLES, and other wording, on ornamental label (51,453). By Batty & Co., Finsbury Pavement, London.
 Co-OPERATIVE PICKLES, and a design showing closed hand, beehive, &c., on a label; for pickles and sauces. By R. Paterson & Sons, 33 Osborne Street, Glasgow. 51,263.
 ELECTRODINE, for metal-polishing material. By W. Fuller, Whip's Cross, Walthamstow, Essex. 51,603.
 BALMORAL, INVICTA, and ECLIPSE; for brushes. By G. B. Kent & Sons, 11 Great Marlborough Street, London, W. 51,604-51,636.
 HUGHES' TABLET; for hard. By Hughes Brothers, Victoria Buildings, Victoria Street, Liverpool. 51,633.

B. & W., within ornamental circle; for mineral and aerated waters. By Baker & Wells, 13 Bath Lane, Newcastle-on-Tyne. 51,800.

HIGH MELTING-POINT LUBRICANT, and figure of a steam gauge; for lubricating oils. By Sidney Minns (trading as Sidney Minns & Co.), 8 Trafalgar Road, Dalston, E. 51,835.

TWO CROSSED GUNS AND A FLAG, with "Standard" above and "pro patria" on a scroll below; for pressed yeast. By G. W. Wilson, and H. J. Lucas, Bradford, Yorks, trading as G. W. Wilson & Co., at Glasgow. 52,256.

THE MANCHESTER BAKING POWDER, and coat of arms; for baking powder. By W. H. Cooper, 45 Bolton Road, Over Darwen, Lancs. 52,257.

CAMBERIAN; for mineral and aerated waters. By the Ruthin Soda Water Company (Limited), Ruthin. 52,276.

CODD'S "INSTANTANEOUS;" for aerated waters bottle-filling machinery. By Hiram Codd, 41 Gracechurch Street, E.C. 52,313.

THE NEWMARKET SAUCE, and figure of race-horse's head at winning post; for a sauce. By Hurrings & Co. (trading as C. & T. Chaplin), 40 Aldersgate Street, E.C. 52,345.

CACAO VERO, on figure representing a packet of the cocoa; for cocoa. By Rodwell & Co., 4 Cullum Street, E.C. 52,415.



PARTNERSHIPS DISSOLVED.

ARIS & BAINBRIDGE, Wellingborough, veterinary surgeons.

CLARK & PERKINS, Wellingborough, doctors of medicine.

CORNWALL, SUMMERS & Co., Liverpool, Playhouse Yard, Blackfriars, London, and St. John, New Brunswick, general produce brokers.

HOLBROOK & HOLMER, Heanor, Derbyshire, aerated water manufacturers, as far as regards J. Holbrook.

RECEIVING ORDER AND DATE OF PUBLIC EXAMINATION.

SIMS, HENRY (trading as Sims Brothers), Harewood, Calstock, Cornwall, and Milton Abbot, Devonshire, manganese merchant, &c. July 15, East Stonehouse.

ADJUDICATIONS.

CLAFTON, EDWIN, Batley, herbalist.

WILCOCKS, NATHANIEL GEORGE, Bath, soda water machinist and engineer.

FIRST MEETINGS.

BLEWITT, BYRON, Leadenhall Street, and Adelaide Road, Hampstead, surgeon. July 5. Bankruptcy Buildings, Portugal Street, Lincoln's Inn Fields.

CLAFTON, EDWIN, Batley, herbalist. July 2. Official Receiver's Office, Batley.

EVANS, CHARLES, West Street, Cambridge Heath, mineral water manufacturer. July 2. 33 Carey Street, Lincoln's Inn Fields.

SIMS, HENRY (trading as Sims Brothers), Harewood, Calstock, Cornwall, and Milton Abbot, Devonshire, manganese merchant, &c. July 8. Official Receiver's Office, Plymouth.

NOTICES OF DIVIDEND.

BRAIN, NOAH JOSEPH, Manchester and Longsight, chemical manufacturer. Dividend of 9*d.* forthwith. 64 Cross Street, Manchester.

KING, ALFRED THOMAS (trading as King & Co.), Nottingham, aerated water manufacturer. First and final dividend of 2*s.* 8*d.* July 5. 1 King John's Chambers, Brillesmith-gate, Nottingham.

WOODHAMS, W. C., Longacre, Abbey Mills, West Ham, and Oak Villas, Church Lane, Merton (under the style of Wallis & Co.), varnish and colour manufacturer. Third and final dividend of 6*d.*, on and after July 2. Mr. E. S. Collard's, 8 Paneras Lane, Queen Victoria Street.

ORDER MADE ON APPLICATION FOR DISCHARGE.

BLACKBURN, SAMUEL WILLIAM, Leeds, drysalter, &c. Discharge suspended, for fourteen days.

SCOTTISH BANKRUPT.

SEQUESTRATION.

BRUCE BROTHERS & Co., oil manufacturers, Govan Oil Works, Govan, as a company, and John Inglis Bruce, oil manufacturer there, the only partner of said firm, as such partner, and as an individual. Creditors to meet in the Faculty Hall, Glasgow, July 8, at 12 o'clock. Mitchell, Cowan & Johnston, writers, Glasgow, agents.

Trade Report.

It should always be remembered that prices quoted in this section are as nearly as can be ascertained the lowest that are actually paid for bulk quantities. Considerable allowances have to be added in many cases before ordinary prices can be ascertained, and for many drugs it must be recollected the range of quality is very wide.

MINCING LANE, July 2.

ACID CARBOLIC is firm. We quote stocks of ordinary quality for manufacturing purposes at 8*d.* per lb., M.P. 35° at 9*d.*, and M.P. 40° at 10*d.* per lb.

ACID (CITRIC) continues to advance. 2*s.* 4½*d.* per lb. has been paid for spot, while for forward delivery the acid is held at 2*s.* 4½*d.* to 2*s.* 5*d.* per lb.

ACID (OXALIC).—The decline has become still more accentuated, 4*d.* less 15 per cent. being now quoted.

ACID (TARTARIC).—The nominal quotations are still 1*s.* 8½*d.* to 1*s.* 9*d.* for *English* and 1*s.* 8*d.* for *Foreign*, but the demand is unusually slight, and we hear that business has been done under these figures.

BLEACHING POWDER shows no improvement. The price ex warehouse is still 7*s.* per cwt.

CREAM OF TARTAR—There is a scarcity in first white cream, which has caused the price to advance slightly, viz., to 12½*d.* ex warehouse.

GLYCERINE.—Very little is doing in this article. The market for crude in France is weak. We quote *German*, double distilled, chemically pure, 1,250 to 1,260 s.g., at 45*s.* to 46*s.* per cwt.; second quality, at 38*s.* to 42*s.*; third quality, refined, half white, at 35*s.* to 38*s.*; straw-coloured to brown, at 17*s.* to 27*s.* per cwt.

QUICKSILVER very firm at 6*l.* 17*s.* 6*d.* per bottle, importers' price.

SODA.—*Ash* in very limited request at 1½*d.* to 1¾*d.* per degree, landed. *Crystals* dearer and now quoted at 48*s.* ex ship; a good business is reported to have been done at 47*s.* 6*d.*, same terms. *Bicarbonate.*—A fair business passing, price 7*s.* 6*d.* per cwt., ex warehouse. *Caustic.*—A small trade at unaltered prices.

SULPHATE OF AMMONIA.—A slight decline is again noticeable this week. The price of grey, 24 per cent., being 11*l.* 12*s.* 6*d.* both in London and Hull.

SULPHATE OF QUININE is quite neglected. The official quotation of the "*Fabbrica Lombarda*" now is 2*s.* 3*d.* per oz. We think that 2*s.* 2*d.* per oz. would buy *German* quinine, although makers still ask 1*d.* more. The official quotations for British quinine have not experienced any change.

CINCHONA BARK.—The public sales held on Tuesday terminated without change in the market, and the unit has remained at 3½*d.* The catalogues comprised 520 packages *South American*, 1,623 packages *Ceylon*, 182 packages *Indian*, and 74 bales *Java* bark—a total considerably below recent average. This diminution in the supply, however, must not be ascribed to a reduction in the arrivals from Ceylon: on the contrary, these continue as large as ever; but simply to the determination of holders to keep back supplies in order to prevent, if possible, a further decline in price. To the South American bark very little attention was paid. A few packages *Calisaya* quill, fair but thin, realised 1*s.* 4*d.*; some *Ner Granada*, in broken pieces, 5*d.*; and dusty, soft *Columbian*, 2½*d.* per lb. *Java* bark maintains a steady price, and sells quickly at full rates, viz., 1*s.* 8*d.* to 1*s.* 10*d.* for very good *Ledger* chips and root. The *Ceylon* bark offered was mostly of indifferent quality, although we noticed some parcels of fine renewed bark. The following are the prices realised:—*Ceylon Succirubra*—dust and siftings, 1½*d.* to 4½*d.*; branch, 1*d.* to 6*d.*; chips, ordinary to very good, 3*d.* to 10*d.*; spoke shavings, low to very good, bright dull to fine bright, 3*d.* to 11½*d.*; root, 4*d.* to 7½*d.*; quill, broken and dusty, to very good renewed, 3½*d.* to 1*s.* 3*d.* *Officinalis*—dust 1½*d.*; branch, 3*d.*

to 7½*d.*; chips, 4*d.* to 8½*d.*; spoke shavings, 5*d.* to 10*d.*; very bright root, 10*d.* to 1*s.* 4*d.*; quill, common and dusty to fine strong, 5½*d.* to 1*s.* 4*d.* *Ledger*, &c., 5*d.* to 1*s.* 3*d.* *Indian Succirubra*—dust, 3*d.*; branch, 1*d.* to 4*d.*; chips, 3½*d.* to 7½*d.*; spoke shavings, 4*d.* to 6*d.*; quill, low, thin, and broken to good renewed sort, 3½*d.* to 1*s.*

CONCENTRATED LEMON-JUICE.—The few firms who hold the stock in Messina are talking of 40*l.* per pipe f.o.b. Messina, as the nearest price at which they would be willing to sell. Large orders are expected from America as soon as the hot weather sets in. At the present moment the Sicilian holders decline to offer at any price. The importations of concentrated lemon-juice from Sicily into London and Liverpool for the first six months were: 1886, 862; 1885, 2,522; 1884, 2,996; 1883, 2,591 pipes; which shows a deficiency in the supply of citric acid for the same period of about 300 tons.

ESSENTIAL OILS.—*Bergamot* is dearer, and good quality fetches 9*s.* 6*d.* to 9*s.* 9*d.* per lb. *Cinnamon* of good quality might be had at, say, 1*s.* 6*d.* per oz. *Citronelle* continues inactive, although it is reported that there is some inquiry. We continue to quote native at ¾*d.* per oz., and Fisher's brand at 1½*d.* per oz. There has been some *Lemon* sold at 9*s.* per lb., but holders now ask more, claiming that the remaining stock will not be sufficient to last until the end of December next. The new crop will, it is said, be very limited, as most of the lemon-trees have severely suffered from the eruption of Mount Etna. We hear on good authority that all round the neighbourhood of Catania the lemon plantations have been almost wholly destroyed. Fruit shippers quote the lemons, for December shipment, at more than double the price that was paid last December. *Orange* has again been in good demand, and prices have advanced.

ISINGLASS.—A small quantity (414 packages) was offered in auction this week. Prices are very firm, and dearer for some varieties, with the exception of *Maranham*, which was cheaper, being little inquired for. The bulk of the supply consisted of *East Indian* isinglass. The prices realised are as follows:—*Brazil*—Para lump, fine first to dark fourth, 4*s.* 3*d.* to 2*s.* 1*d.*; tongue, good medium to ordinary honey-comb and pickings, 3*s.* 4*d.* to 10½*d.* *Maranham*—lump, 2*s.* to 1*s.* 8*d.*; tongue, 1*s.* 11*d.* to 2*s.* 9*d.*, pickings, 1*s.* 1*d.* *West Indian*—fine lump to common red, 3*s.* 1*d.* to 1*s.* 10*d.* *Penang*—leaf, fine pale to very ordinary thin, 3*s.* 3*d.* to 9*d.*; tongue, fine to good ordinary dark; 3*s.* 9*d.* to 1*s.* 3*d.*; cake, 1*s.* 6*d.* to 7*d.* *Saigon*—4*s.* 4*d.* to 3*s.* 6*d.* *Bombay* and *Kurrachee*, good tongue to small pieces, 2*s.* 5*d.* to 1½*d.*; bladder pipe, 2*s.* 9*d.*; cake, 1*s.* 6*d.* to 2*d.* *Senegal*—low, skinny leaf, 9*d.* per lb. The next sales are announced for July 27.

LANOLINE.—Fine pale coloured quality, almost free from smell, in 7-lb. tins is quoted, at 2*s.* 6*d.* per lb.; the same, in cases of 16 tins, at 2*s.* 4*d.* per lb. Darker coloured lanoline for cosmetrical preparations is quoted at 1*s.* 10*d.* to 2*s.* per lb., according to quantity.

TAMARINDS.—A few lots of *Antigua* have been sold at 12*s.* per cwt.

GALLS.—*China* cheaper, owing to large arrivals from Shanghai. In auction, about 70 cases were sold without reserve, realising 58*s.* 6*d.* to 59*s.* for good, but very broken, Shanghai, and 57*s.* for dark ditto.

GAMBIER remains firm at 22*s.* per cwt. for good block bales, prompt delivery. In Liverpool the price for this quality is 23*s.* to 23*s.* 6*d.* per cwt., with rising tendency.

JAPAN WAX.—In the last public sales a small parcel was bought in at 56*s.* per cwt. The nearest price for good white tablets is 54*s.* per cwt.

SALTPETRE is quite neglected; the nearest quotation for *Bengal*, 5½ to 3 per cent., is 16*s.* 1½*d.* to 16*s.* per cwt. *Chilian* (nitrate of soda) quoted at 10*l.* 5*s.* for prompt delivery nominally; at Liverpool, transactions have taken place at the rate of 9*l.* to 9*l.* 3*s.*

SHELLAC.—Very little doing.

TURMERIC.—*Madras* variety, bright yellow finger and bulb mixed, is worth 12*s.*, whole bulbs 12*s.* 3*d.* per cwt.

COCOA-NUT OIL has slightly advanced and closes firm, the

statistical position of the article being an extremely favourable one. The present quotations are—*Cochin* on the spot in pipes, 32*l.* 10*s.*; *Ceylon* in pipes, 26*l.* 5*s.*, in hogsheads, 26*l.* 10*s.* to 26*l.* 15*s.*; *Mauritius* in hogsheads, 26*l.*

COTTON OIL is from 5*s.* to 15*s.* cheaper, according to quality and position. *Crude* is held at 16*l.* in London and 15*l.* in Hull. *Refined*, according to quality: in London, 18*l.* to 19*l.* on the spot, 18*l.* 10*s.* per July-August; in Hull, 17*l.* 7*s.* 6*d.* on the spot, 17*l.* 10*s.* per forward delivery.

LINSEED OIL has slightly advanced in price for spot, both in London and at Hull. Forward delivery, on the other hand, is somewhat cheaper, but the closing position of the article is firm. The figures quoted now are:—On the spot, in London, pipes, waterside, 21*l.* 5*s.*; landed, 21*l.* 5*s.*; barrels, 21*l.* 10*s.*; July-August, 21*l.* 7*s.* 6*d.*; September-December, 20*l.* 5*s.* Hull, spot, 21*l.* 7*s.* 6*d.*; barrels, 21*l.* 15*s.*; July-August, 21*l.*; September-December, 19*l.* 15*s.*

OLIVE OIL.—Very little is doing in this article; the quotations remain unchanged; *Spanish*, at 33*l.* to 40*l.*; *Messina*, at 37*l.*, and *Mogadore*, at 32*l.* 10*s.* In Liverpool a limited business is being done.

PALM OIL.—Fine *Calabar* is held at 24*l.* in our market.

PETROLEUM is quiet, but the price for September-December has advanced a shade. The quotations are:—*American* on the spot 5½*d.* to 5½½*d.*, September-December 5½*d.* to 5½½*d.*, January-March 6*d.* to 6½*d.* *Russian* PW, spot 4¾*d.* to 6*d.*, according to quality; November-December 5½*d.*, January-March 5½*d.* to 6*d.*

RAPE OIL has declined 10*s.* all round, and closes dull; English *brown* in all positions at 21*l.* 5*s.*; *Refined* English on the spot at 22*l.* 15*s.*

TURPENTINE has declined in value, and very little is going on in the article. *American spirit* is quoted at 24*s.* 3*d.* to 24*s.* 6*d.* on the spot, 23*s.* 9*d.* to 24*s.* for September-December, and 26*s.* 6*d.* on the spot in Liverpool.

CLOVES.—At the end of last week rumours obtained currency that the shipments from Bombay were increasing. These reports frightened some holders, and consequently the market, which was very firm up till then, has become weaker. In sale on Wednesday hardly any cloves were offered. Good *Zanzibar* are quoted at 9½*d.* to 9¾*d.* per lb. Our stock in first-hand is now 6,672 bales of all kinds, against 18,443 bales in 1885. The arrivals thus far have been very small and are far surpassed by the deliveries.

CARAWAY SEED is unchanged. Fair *Dutch* has been sold at 34*s.*

CASSIA LIGNEA.—Very little is doing in the article. In sale, a parcel of broken quills was bought in at 25*s.* per cwt. nominally. At this price it would certainly not find a purchaser. Our stock has now grown to about 125,605 packages. The arrivals during the current year have been abnormally large; no less than 41,503 cases, against only 4,348 during the same period of 1885.

GINGER is dull and saleable with difficulty at the recent reduction. In public sale on Wednesday *Cochin* and *Jamaica* varieties only were offered. Of the former description 70 cases were disposed of at 35*s.* to 45*s.* for medium and small washed, to small, partly cut, and of the latter 200 barrels at 40*s.* to 42*s.* for ordinary, 57*s.* to 65*s.* for good medium to good washed quality. Our stock in first-hand of *Cochin* and *West Indian* ginger is not so heavy as last year, numbering respectively 18,109 and 2,643 packages, but of *Bengal* and *African* ginger there is a heavy stock, viz. 2,813 and 1,478 bags.

MACE.—Dearer and offering sparingly. *West Indian* mace was sold on Wednesday at 1*s.* 5*d.* to 1*s.* 9*d.* per lb.

NUTMEGS are in good demand and dearer. *Penang* 80's have been sold at 2*s.* 2½*d.* per lb. *West Indian* nutmegs have been sold at 3*s.* 7*d.* for 64's, 2*s.* 6*d.* to 2*s.* 1*d.* for 73's to 81's, 1*s.* 11*d.* to 1*s.* 7*d.* for 90's to 128's, 1*s.* 6*d.* to 1*s.* 4*d.* for 132's to 142's. The deliveries are greatly in excess of the arrivals, and our stock has been reduced to 2,348 packages.

PEPPER is very firm, the black variety especially, and a considerable business is doing at higher prices. Good black *Singapore* has been sold at 7½*d.*, and *Tellicherry* at 7½*d.* to

7½*d.* per lb. Twenty tons white *Penang*, per May-June steamer, are reported to have changed hands at 11½*d.* per lb. White *Singapore*, per May-June steamer, has realised 1*s.* 0½*d.*, and for more distant delivery 1*s.* 0½*d.* per lb.

THE AMERICAN MARKETS.

NEW YORK, June 18.

THE activity in the drug market still continues, and business may be said to be fairly brisk, already prices are hardening, and in a few cases an advance in some of the staple articles has to be noted.

The prices sterling (in parentheses) are what the different articles would cost delivered in London, all market allowances, discounts, &c., being taken into account. Importers can, therefore, see at a glance the course of this market compared with their own.

PEPPERMINT OIL.—The acreage under peppermint herb in Michigan is fully one-third greater this year than at any previous time in the history of its cultivation in that state. It has kept constantly enlarging, but the high rates realised last year has given a great impetus to the production, and stimulated the farmers to plant out as much as possible. Of course it is well known that the forecasts of the crop are often a boom only to speculators, this crop in particular being a favourite for all sorts of rumours and unreliable reports. In investigating the prospects for this year great care has therefore been taken, and what follows may be accepted as reliable. It is positively stated that, owing to the great drought, the plants in Michigan have suffered severely; the second year's growth will not be of any importance, having in a great many instances been ploughed up, and, in spite of the increase of the acreage, the production of oil will hardly come up to last season. Turning to Wayne county in this state, the position of affairs is even worse. As is well known, the yield from this district last year was the smallest since the cultivation began to decline; the acreage planted this year was not much more than last, the second year's growth was greatly injured by the heavy rains and floods which prevailed up to April, and now all parties agree in stating that both the old and new plantings never presented such a poor appearance. Very dry weather has prevailed for the last month, and even if plenty of rain now fell its arrival would prove too late to be of any use in saving the crop. The total production in this state may safely be predicted to be much below what it was last year. Taking a general view of the outlook it appears that Michigan must be looked to in future to supply the great bulk of the oil grown in this country, and that from both Michigan and Wayne the prospects for the coming season are decidedly bad. As to the position of the market it is easily summarised: very dull for want of demand, there is nothing in the statistical position to warrant any decline; stocks in the producing districts are very small; in this city they are also light, but holders are anxious to do some business, and reduce rates in the hope of producing some inquiry, but without result. H. G. Hotchkiss's brand has been offered at \$3.50 (16*s.*), and pure bulk oil in tins at \$3.25 (13*s.* 9*d.* net). There is yet three months before the new oil can come in the market in any quantity; a revival of demand would undoubtedly catch most consumers short of stock, and in the rush to replenish a rapid advance would be sure to take place. It is too soon to predict what the new oil will open at, but the course of events last year is worth recording. It was confidently stated that the price would rule about \$2 (8*s.* 6*d.* net), while it is doubtful if it even went below \$3 (12*s.* 9*d.*) net cash for the naked oil to the growers. For the great bulk of the crop in Wayne the farmers realised on an average \$3.50 (14*s.* 8*d.*), or if computed as Hotchkiss oil in London, without any intermediate profit, 18*s.* 6*d.* London terms. The growers are always alive to their own interests, and with the prospects as above stated, and well known to them, it is more than likely the opening price will prove to be about \$3.25 (13*s.* 9*d.*) for the naked oil.

SPERMACETI has rapidly advanced to 45*c.* (1*s.* 11½*d.*) owing to the great number of orders having cleared the spot stock, and forward deliveries for July, makers will hardly name a price.

Prices Current.

The prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.

		June 13		July 2	
ACIDS—		s. d.	s. d.	s. d.	s. d.
Acetic	per lb.	0 2½	0 0	0 2½	0 0
pure	"	0 5	0 9	0 5	0 9
glacial, 50p.c.	"	0 5½	0 8	0 5½	0 8
Benzoic acid, 50p.c. ..	per oz.	2 6	0 0	2 6	0 0
Ex Gum	"	0 6	0 0	0 6	0 0
Citric	"	2 4	2 4½	2 4½	2 5
Galic	"	3 3	0 0	3 3	0 0
Hydrochloric	per cwt.	4 6	7 6	4 6	7 6
Nitric	per lb.	0 3	0 3½	0 3	0 3½
Oxalic	"	0 3½	0 4	0 3½	0 4
Sulphuric	"	0 0½	0 1	0 0½	0 0
Tannic	"	6 9	9 6	6 9	9 6
Tartaric	"	1 3	1 6	1 3	1 6
Tartaric, English ..	"	1 9	0 0	1 8½	1 9
foreign	"	1 7½	1 8	1 7½	1 8
ANTIMONY, crude	per cwt.	17 0	17 3	17 0	17 3
star	"	34 0	35 0	34 0	35 0
ARSENIC, lump	"	21 0	22 0	21 0	22 0
powder	"	8 6	9 0	8 6	9 0
BRIMSTONE, rough	"	8 0	8 6	8 0	8 6
roll	"	7 0	8 6	7 0	8 6
flowers	"	10 0	0 0	9 6	10 0
GLYCERINE, pure S.G.	per cwt.	42 0	45 0	45 0	47 0
crude brown	"	20 0	30 0	17 0	27 0
IODIFORM	per lb.	16 0	20 0	16 0	20 0
IODINE, dry	per oz.	0 9	0 11	0 9	0 11
resublimed	"	0 10	1 1	0 10	1 1
MAONESIA, calcined ..	per lb.	0 12	1 4	1 3	1 4
citrate	"	0 11	1 3	0 11	1 3
MERCURY	per bot.	136 0	137 6	136 0	137 6
PRECIPITATE, red	per lb.	2 11	0 0	2 11	0 0
white	"	2 11	0 0	2 11	0 0
PRUSSIAN BLUE	"	1 8	2 0	1 8	2 0
SANTONINE	"	8 0	13 0	8 0	10 0
SALICINE	"	5 6	7 6	5 6	7 6
THYMOL	"	20 0	24 0	20 0	24 0
URETHANE	per oz.	0 0	1 6	0 0	1 6
SALTS—					
Alum	per ton	107 0	110 0	100 0	110 0
powder	"	120 0	122 6	120 0	122 6
Ammonia:					
Carbonate	per lb.	0 4	0 5	0 5	0 6
Muriate, crude	"	320 0	520 0	350 0	550 0
Sulphate	per ton	220 0	221 3	223 9	0 0
Argol, Cape	per cwt.	96 0	107 0	96 0	107 0
Red	"	87 0	95 0	87 0	95 0
Oporto, red	"	0 0	0 0	0 0	0 0
Bleaching powder	"	6 6	7 3	6 6	7 0
Borax, British refined ..	per lb.	30 0	0 0	29 6	30 0
Calomel	"	2 7	0 0	2 7	0 0
Chloral hydrate	"	4 5	4 7	4 5	4 7
Liebreich's	"	5 8	7 0	5 8	7 0
Cocaine	per grm.	1 3½	1 10½	1 3½	1 10½
Codine	per oz.	26 0	27 0	28 0	27 0
Copper:					
Sulphate	per cwt.	14 9	0 0	14 6	0 0
Copperas, green	per ton	37 6	40 0	37 6	40 0
Corrosive Sublimate	per lb.	2 0	0 0	2 0	0 0
Cream Tartar, French ..	per cwt.	123 6	0 0	124 0	0 0
brown	"	109 0	0 0	109 0	0 0
Epsom Salts	"	3 6	4 0	3 6	4 0
Glauber Salts	"	3 6	4 6	3 6	4 6
Magnesia: Carbonate ..	"	39 0	40 0	39 0	40 0
Pond, Hwds.	"	72 0	0 0	72 0	0 0
Morphine Murias	"	4 3	4 9	4 3	4 9
Phosphorus	per lb.	2 3	2 4	2 3	2 4
Potash: Bichromate ..	"	0 3½	0 0	0 3½	0 0
Carbonate:					
Potashes, Can., 1st ..	per cwt.	13 6	19 6	19 6	21 6
Pearlshes, do.	"	39 0	0 0	39 0	41 0
Chlorate	per lb.	0 6½	0 7	0 6½	0 6½
Prussiate, yellow	"	0 7	0 8	0 7	0 8
Sulphate	per cwt.	10 6	0 0	10 6	0 0
Potassium:					
Bromide	per lb.	1 6½	1 10	1 6½	1 10
Chloride	per cwt.	9 0	0 0	9 0	0 0
Iodide	per lb.	11 6	12 6	11 6	12 6
Quinine:					
Sulphate, Brit., in bot. ..	per oz.	3 0	0 0	3 0	0 0
Sulphate, French	"	2 9	0 0	2 9	0 0
Sulphate, German, bulk ..	"	2 3	0 0	2 2	2 3
Sal Acetos	per lb.	0 6	0 6½	0 6	0 6½
Sal Ammoniac, British ..	per cwt.	34 0	36 0	34 0	36 0
Saltpetre:					
Bengal, 54 p.c. or under ..	"	16 6	15 7½	16 3	0 0
Bengal, over 6 p.c. ent. ..	"	0 0	0 0	0 0	0 0
British, refined	"	21 3	22 3	21 3	22 3
Soda: Bicarbonate	"	7 0	7 3	7 0	7 6

Soda:—(cont.)

		June 18		July 2	
		s. d.	s. d.	s. d.	s. d.
Hwds.	per cwt.	45 0	0 0	45 0	0 0
Carbonate:					
Soda Ash	per deg.	0 1½	0 1½	0 1½	0 1½
Soda Crystals	per cwt.	40 9	47 6	42 0	43 0
Caustic	"	6 10½	8 6	6 10½	8 6
Hypsulphite	"	6 6	8 6	6 6	8 6
Nitrate	"	9 9	11 3	9 9	11 3
Zinc Sulphate	"	8 9	12 9	8 6	12 9
SUGAR OF LEAD, White ..	"	22 0	25 6	22 0	25 6
Brown	"	17 6	0 0	17 6	0 0
VERDIGRIS	per cwt.	42 0	87 0	42 0	87 0
VERMILION, English ..	per lb.	2 2	0 0	2 2	0 0
China	"	2 0	0 1	2 0	0 1
DRUGS.					
ALOE, Henatio.	per cwt.	60 0	140 0	60 0	140 0
Socotrine	"	80 0	185 0	80 0	185 0
Cape, good to fine ..	"	30 0	32 6	30 0	33 0
infr. to fair	"	10 0	23 0	10 0	23 0
Barbados	"	70 0	120 0	70 0	120 0
Curacao	"	40 0	120 0	40 0	120 0
AMBERGRIS	per oz.	40 0	120 0	40 0	120 0
BALSAM—					
Canada	per lb.	1 5	1 7	1 5	1 7
Capivi	"	1 2	1 5	1 2	1 5
Pern	"	5 4	5 6	5 4	5 6
Tolu	"	1 1	1 4	1 1	1 3
BARKS—					
Candela alba	per cwt.	32 6	39 0	32 6	39 0
Cascarilla	"	25 6	23 0	25 0	28 0
CINCHONA—					
Callisaya, flat	per lb.	1 3	2 8	1 3	2 8
quill	"	1 0	3 6	1 0	3 6
Columbian, good to fine ..	"	1 1	1 9	1 1	1 9
ord. to fair	"	0 6	1 0	0 2½	1 0
Crown, Loxa	"	0 5	1 10	0 5	1 10
Grey (Huanuco)	"	0 4	1 5	0 4	1 5
Moracabo	"	0 3	0 6	0 3	0 6
Pitayo, hard	"	0 3	0 10	0 3	0 10
Red, flat	"	2 0	10 0	2 0	10 0
quill	"	1 0	3 6	1 0	3 6
Cuprea	"	0 2	1 9	0 2	1 9
East India and Ceylon,					
crown	"	0 2½	2 4	0 1½	1 4
Do, red	"	0 1½	3 6	0 1½	3 6
Do, red	"	0 2	0 9	0 2	0 9
BUCHU LEAVES	"	65 0	0 0	62 6	63 0
CAMPHOR, China	per cwt.	64 0	0 0	61 0	0 0
Japan	"	1 0	0 0	1 0	0 0
Refin. Eng.	per lb.	0 10	0 11½	0 10	0 11½
Tablets	"	42 0	0 0	42 0	0 0
CAMOMILE FLOWERS	per cwt.	4 6	4 9	4 6	4 9
CANTHARIDES, China ..	per lb.	7 6	9 0	7 6	9 0
Russian	"	25 0	38 0	25 0	38 0
CASTOREUM	"	0 2½	0 2½	0 2½	0 2½
CHIRETTA	"	0 10	1 5	0 10	1 5
COCA LEAVES	per cwt.	60 0	118 0	60 0	123 0
DRAGON'S BLOOD	per lb.	0 9½	1 4	0 9½	1 4
ERGO OF RYE	"	0 9½	1 4	0 9½	1 4
FRUITS & SEEDS (see also Seeds and Spices)					
Anise, China Star	per cwt.	72 6	0 0	72 6	0 0
Russian	"	29 0	30 0	27 0	30 0
Beans, Tonquin	per lb.	0 9	5 0	1 3	5 0
Cardamoms, Malabar,					
good	"	2 0	2 9	2 3	3 0
inferior	"	1 0	1 8	1 0	2 0
Aleppy	"	0 6	2 2	0 6	2 6
Madras	"	0 8	1 9	0 8	1 9
Ceylon, long	"	0 6½	1 2	0 8	1 2
Malabar sorts	"	1 0	2 5	1 0	2 9
Cocculus Indicus	per cwt.	8 6	10 0	8 6	10 0
Colocynth	per lb.	0 10	2 0	0 10	2 0
Cubebs	per cwt.	330 0	350 0	280 0	350 0
Cumin	"	25 0	42 0	25 0	40 0
Fenugreek	"	6 0	7 0	6 0	6 6
Juniper Berries	"	0 0	0 0	0 0	0 0
Nux Vomica	"	7 0	11 0	7 0	11 0
Tamarinds, E. India ..	"	9 0	11 0	9 0	11 3
W. India	"	8 0	8 6	8 0	8 6
Vanilla, large	per lb.	13 0	23 0	13 0	20 0
inferior	"	6 0	12 0	6 0	12 0
FLOWERS—Dalmatian ..	"	60 0	90 0	60 0	90 0
Caucasian	"	95 0	0 0	95 0	0 0
HONEY, California	per cwt.	19 0	30 0	19 0	30 0
Jamaica	"	22 0	32 6	22 0	32 6
IPPECACUANHA	per lb.	3 0	4 1	3 3	4 1
ISINGLASS, Brazil	"	2 4	4 1	2 1	4 3
Tongue sort	"	1 3	3 1	1 8	3 4
East India	"	0 1½	3 10	0 1½	4 4
West India	"	2 7	3 1	1 10	3 1
Russ. leaf	"	8 0	11 0	8 0	11 0
Simovia	"	0 0	2 4	0 0	2 4
JALAP, good	"	0 5½	0 6	0 5½	0 6
infer. and stems	"	0 4½	0 5½	0 4½	0 5½
LEMON JUICE, f.o.b.					
Messina	per pipe	730 0	735 0	730 0	730 0
LIME JUICE, Jamaica ..	per gall.	1 4	0 0	1 4	1 5
LIQUORICE, Spanish	per cwt.	55 0	100 0	55 0	100 0
Liquorice Root	"	12 0	20 0	12 0	20 0
MANNA, Baky	per lb.	7 6	8 6	7 6	8 6
MUSK, Tonquin pod	per oz.	62 0	65 0	62 0	65 0
Grain	"	35 0	90 6	35 0	90 6
Yunnan pod	"	25 0	43 6	25 0	40 6
OILS (see also paraffin)					
Almond, expressed	per lb.	1 3	0 0	1 3	0 0
Castor, 1st pale	"	0 3½	0 4	0 3½	0 4½

		June 18				July 2			
		£	s.	d.		£	s.	d.	
Oils:—(cont.)									
Castor, second	per lb.	0	3	0	0	0	3	0	0
Cod-liver	per gall.	2	10	4	0	2	10	4	0
Essential Oils:									
Almond	per lb.	13	0	27	0	13	0	27	0
Anise-seed, star	"	6	3	6	4	6	3	6	4
" German, &c.	"	13	0	11	6	10	0	11	6
Bergamot	"	9	6	11	0	9	6	11	0
Cajeput	per bot.	3	3	3	4	3	3	3	4
Caraway	per lb.	3	4	10	0	3	4	10	0
Cassia	"	3	0	3	3	3	0	3	3
Cinnamon	per oz.	1	3	4	0	1	3	4	0
Cinnamon-leaf	"	0	1	0	2	0	1	0	2
Citronelle	"	0	2	0	1	0	2	0	1
Clove	per lb.	5	10	0	0	5	10	0	0
Juniper	"	1	6	1	9	1	6	1	9
Lavender, Exotic	"	5	13	7	6	5	10	7	6
" Miteham	"	40	0	53	0	40	0	53	0
Lemon	"	9	0	11	0	9	0	11	0
Lemongrass	per oz.	0	1	0	0	0	1	0	0
Neroli	"	7	0	13	2	7	0	13	2
Nutmeg	"	0	5	0	6	0	5	0	6
Orange	per lb.	3	0	9	6	3	0	9	6
Otto of Roses	per oz.	13	0	22	0	13	0	22	0
Patchouli	"	2	1	0	0	2	1	0	0
Peppermint: American	per lb.	12	0	12	6	12	0	12	6
(H. G. Hotchkiss)	"	16	0	16	6	16	0	16	6
English	"	30	0	32	0	30	0	32	0
(Jakson)	"	39	0	45	0	39	0	45	0
Japan	"	8	0	8	9	8	0	8	9
Menthol crystals	"	6	0	15	0	6	0	15	0
Rosemary	"	1	4	2	11	1	4	2	11
Sassafras	"	2	5	0	0	2	5	0	0
Spearmint	"	12	0	14	0	12	0	14	0
Thyme	"	1	6	4	6	1	6	4	6
Mace, expressed	per oz.	0	2	0	0	0	2	0	0
OPIMUM, Turkey	per lb.	7	0	14	0	7	0	14	0
" Egyptian	"	6	0	7	0	6	0	7	0
QUASSIA (bitter wood)	per ton	80	0	95	0	80	0	95	0
RHUBARB, China, good	per lb.	2	3	0	0	2	3	0	0
and fine	"	0	8	1	3	0	8	1	3
Middling to fair	"	35	0	60	0	35	0	60	0
ROOTS—Columba									
China	per cwt.	25	0	28	0	25	0	28	0
Cns-Cns	"	23	0	30	0	21	0	28	0
Galangal	"	7	6	13	0	7	6	11	6
Gentian	"	17	0	18	0	17	0	18	0
Orris	"	45	0	50	0	45	0	50	0
Pellitory	"	44	0	0	0	44	0	0	0
Rhatany	per lb.	0	2	1	2	0	3	1	2
Seneka	"	1	11	2	1	1	11	2	1
Snake	"	3	3	3	5	3	3	3	5
SAFFRON, Valencia	"	38	0	41	0	38	0	41	0
Alicante	"	24	0	23	0	24	0	28	0
SARSAPARILLA, Mexican	"	0	4	0	6	0	4	0	6
Guayaquil	"	0	7	0	10	0	7	0	10
Honduras	"	1	2	1	5	1	2	1	5
Jamaica	"	1	0	1	10	1	0	1	10
SASSAFRAS	per cwt.	11	0	0	0	11	0	0	0
SCAMMONY, Virgin	per lb.	18	0	24	0	18	0	26	0
second and ordinary	"	5	0	17	0	5	0	17	0
SENNA, Bombay	"	0	1	0	3	0	1	0	3
Tinnivelly	"	0	1	1	0	0	2	1	0
Alexandria	"	0	2	1	6	0	2	1	6
SERMACETI, refined	"	1	11	2	0	1	11	2	0
American	"	1	10	0	0	1	10	0	0
SQUILLS	"	0	2	1	0	0	2	1	0
GUMS.									
AMMONIAC, drop	per cwt.	2	0	2	5	2	0	2	5
ANIMI, fine washed	"	14	10	16	0	14	10	16	0
sorts	"	11	0	14	0	11	0	14	0
ARABIC, pale picked	"	4	0	5	4	4	0	5	4
sorts, mid. to fine	"	1	0	3	15	1	0	3	15
TURKEY, pick. gd. to fin.	"	12	0	17	0	12	0	17	0
second & inferior	"	9	0	12	0	8	10	11	10
sorts	"	8	15	9	2/6	8	0	8	15
BENJAMIN, Siam, 1st	"	18	0	36	0	18	0	24	0
& 2nd	"	3	5	12	0	3	5	12	0
Sumatra, 3rd to 1st	"	28	6	36	0	28	6	36	0
ASAFETIDA, em. to fair	"	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
OPAL, Manila	"	20	0	85	0	16	0	90	0
Angola, red	"	145	0	152	6	145	0	152	6
DAMAR, pale	"	70	0	82	6	70	0	80	0
EUPHORIUM	"	12	6	20	0	14	0	20	0
GALBANUM	per lb.	0	3	1	5	0	3	1	5
GAMBOGE	per cwt.	210	0	245	0	210	0	260	0
GUALACUM	per lb.	0	5	1	6	0	5	1	8
KINO	per cwt.	20	0	48	6	20	0	45	0
KOWRIE, sorts	"	30	0	50	0	30	0	107	6
selected	"	110	0	200	0	110	0	200	0
MASTIC, picked	per lb.	2	6	3	1	2	6	3	1
MYRRH, good and fine	per cwt.	97	6	157	6	97	6	157	6
ordinary to fair	"	70	0	95	0	70	0	95	0
OLIBANUM, p. drop	"	44	6	52	6	44	0	50	0
amber and yellow	"	30	0	43	6	30	0	43	6
SANDARAC	"	60	6	75	0	60	0	80	0
SENEGAL	"	128	6	133	0	128	6	133	0
SHELLAC, Orange	"	46	0	63	0	48	0	66	0
LIVER	"	45	0	46	0	43	0	47	0
THUS	"	15	0	25	0	15	0	25	0
TRAGACANTH, leaf	"	200	0	240	0	200	0	240	0
in sorts	"	40	0	195	0	40	0	195	0
OILS.									
REAL pale	per tun	24	0	0	0	24	0	0	0

Oils:—(cont.)		June 18			July 2				
		£	s.	d.	£	s.	d.		
SEAL, yellow to tinged..	per tun	19	0	20	0	19	0 to 22	0	
" brown	"	13	0	18	0	16	0	18	0
SPERM	"	53	0	0	0	52	0	53	0
COD	"	25	0	23	0	25	0	0	0
WHALE, South Sea, pale	"	21	0	22	0	20	0	0	0
" yellow	"	16	0	18	0	15	0	17	0
" brown	"	14	0	16	0	14	0	16	0
" Sardine	"	19	0	20	0	19	0	20	0
OLIVE, Seville	per ton	40	0	0	0	40	0	0	0
" Tunis	"	0	0	0	0	0	0	0	0
" Levant	"	0	0	0	0	0	0	0	0
" Mogador	"	32	10	0	0	32	10	0	0
" Spanish	"	38	0	33	0	38	0	39	0
" Sicily	"	37	10	0	0	37	10	0	0
COCOANUT, Cochín	"	32	0	33	0	32	0	33	0
" Ceylon	"	25	15	26	10	26	5	26	15
" Mauritius ..	"	26	0	0	0	25	0	0	0
PALM, Lagos	"	23	10	21	0	24	0	0	0
LINSEED	"	21	2	6	10	21	2	6	10
RAPESEED, English, pale	"	23	0	23	5	22	15	0	0
" brown	"	21	15	0	0	21	5	0	0
COTTONSEED, refined ..	"	18	5	19	5	18	0	19	0
LARD	"	32	10	33	10	33	10	34	10
TALLOW	"	24	0	31	0	23	0	27	0
TURPENTINE, American	per cwt.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.		
PETROLEUM, refined....	per gall.	0	5	1/2	0	5	1/2	0	5
" Spirit	"	0	7	1/2	0	7	1/2	0	7
SEEDS.									
CANARY	per qr.	45	0	55	0	44	0	62	0
CARAWAY, Mogadore ..	per cwt.	31	0	0	0	31	0	0	0
" German, &c.	"	34	0	37	0	35	0	37	0
CORIANDER	"	14	0	19	0	14	0	19	0
HEMP	per qr.	33	0	0	0	38	0	0	0
LINSEED, English	"	42	6	0	0	42	6	0	0
" Black Sea & Azof	"	0	0	0	0	0	0	0	0
" Calcutta	"	40	3	0	0	40	9	0	0
" Bombay	"	43	0	0	0	43	0	0	0
" St. Petersburg ..	"	0	0	0	0	0	0	0	0
MUSTARD, brown	per bush.	5	6	0	0	5	6	0	0
" white	"	7	6	9	6	7	6	9	6
POPPY, East India	per qr.	33	0	0	0	33	0	0	0
SPICES.									
CASSIA LIGNEA	per cwt.	25	0	0	0	24	0	0	0
" Vera	"	19	0	25	0	19	0	25	0
" Buds	"	41	0	41	6	41	0	41	6
CINNAMON, Ceylon:									
1st quality	per lb.	0	8	1	9	0	8	1	9
2nd ditto	"	0	7	1	3	0	7	1	3
3rd ditto	"	0	6	1	0	0	6	1	0
" Tellicherry	"	0	3	0	9	0	3	0	9
" Chips	"	0	1	0	6	0	1	0	6
CLOVES, Penang	"	0	10	1	1	0	10	1	1
" Amboyna	"	0	9	1	0	0	10	1	0
" Zanzibar	"	0	9	1	0	0	9	1	0
GINGER, Jama., fine	per cwt.	72	0	83	0	70	0	80	0
" Ord. to good	"	35	6	71	0	35	6	65	0
" African	"	25	0	0	0	25	0	0	0
" Bengal	"	15	6	0	0	15	6	0	0
" Malabar	"	19	0	0	0	19	0	0	0
" Cochin	"	25	0	55	6	25	0	55	6
PEPPER, Black, Malabar	per lb.	0	7	1	0	0	7	1	0
" Singapore	"	0	7	1	0	0	7	1	0
" White	"	0	10	1	1	0	11	1	0
" Cayenne	"	1	0	1	8	1	0	1	8
MAICE, 1st quality.....	"	1	8	2	1	1	8	2	1
" 2nd and inferior....	"	1	1	1	8	1	2	1	9
NUTMEGS, 78 to 60 to lb.	"	2	3	3	3	2	4	3	4
" 90 80	"	1	10	2	0	1	11	2	2
" 132 95	"	1	4	1	8	1	5	1	9
PIMENTA	"	0	1	5	0	0	2	3	0
VARIOUS PRODUCTS.									
COCHINEAL—									
Honduras, black	per lb.	1	6	1	10	1	6	1	10
" silver	"	1	3	1	6	1	3	1	6
Mexican, black	"	1	4	1	9	1	4	1	9
" silver	"	1	3	1	5	1	3	1	5
Teneriffe, black	"	1	2	1	5	1	2	1	5
" silver	"	1	3	1	3	1	3	1	3
GALLS, Tky blue.....	"	47	6	57	6	47	6	57	6
" China & Corca	"	60	0	62	6	56	0	58	0
INDIGO, Bengal	"	2	6	6	0	2	6	6	0
" Madras	"	1	0	4	5	1	0	4	5
" Kurrpah	"	1	6	5	3	1	6	5	3
" Onde	"	2	0	4	7	2	0	4	7
" Guatemala.....	"	2	2	6	3	2	2	6	3
ROSIN, American	per cwt.	3	6	10	0	3	6	10	0
SOAP, Castile.....	"	28	0	0	0	28	0	0	0
SOY, China.....	per gall.	1	3	1	4	1	3	1	4
WAX, BEES, English ..	per cwt.	£0	0	£0	0	£0	0	£0	0
" Jamaica	"	6	5	7	10	6	0	7	10
" East India	"	5	0	7	5	5	0	7	5
VEGETABLE, Japan	"	£2	15	£2	17	£2	14	£2	16
" Paraffin, refined....	per lb.	0	4	0	5	0	4	0	5
WOOD, DYE, Bar.....	per ton	£4	5	£4	15	£4	5	£4	15
" Brazil	"	7	0	18	0	7	0	18	0
" Cam	"	16	0	30	0	16	0	30	0
" Fustie, Cuba	"	4	0	6	0	4	0	5	0
" Jamaica	"	4	0	5	0	4	0	5	0
LOGWOOD, Campeachy ..	"	6	0	8	10	6	0	8	10
" Jamaica	"	4	15	5	5	4	15	5	5
LIMA	"	7	10	8	10	7	10	8	10
RED SANDERS	"	4	17	6	5	5	0	0	0



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish.

Write on one side of the paper only; write early; and devote a separate sheet of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

The Edinburgh Meeting.

Nomination of an Examiner to the Board of Examiners for Scotland.

SIR,—I am sorry to find in your issue of this week that I am reported to have “*emphatically protested against the introduction of any other names,*” after the nomination of Mr. Dott. What happened was this: Mr. Borland nominated Mr. Dott, and afterwards invited the meeting to “*send other names besides his to the Council,*” and it was this latter suggestion, and not the mere introduction of any other names to the meeting, that I objected to. I think the meeting understood the point I raised. Certainly Mr. Young, who took me up on it, did.

June 28.

I am, yours, &c.

J. B. STEPHENSON.

Coroners' Censures.

SIR,—As the law in its paternal and omniscient benignity has thought fit to decide what and how a chemist may sell poisons, thus taking away, at any rate partially, his free agency (and properly so, I consider, in the interests both of the public and the trade), is a coroner legally justified in censuring a man who has complied with the law? Is the coroner to concoct a law of his own? This seems to me *ultra vires* and *tant soit peu* impertinent! A chemist may, from good and right feeling, take more precautions than the law compels, but, if his self-fixed limit and the coroner's differ, is the coroner to censure what the law does not? I think I would respectfully inform the coroner that I repudiated his censure and denied his power. Should I be wrong? Of course I am assuming that the chemist has properly understood and observed the Pharmacy Acts.

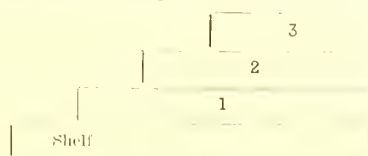
June 26.

CHEMICUS.

The Poisons Cupboard.

SIR,—I noticed in your last issue a plan of two cupboards for the storage of poisons, and knowing from past experience the delay and annoyance occasioned in many cases by the difficulty of finding the required bottle, I enclose a design of my own to remedy this defect.

I devote the top shelf, which is 3 feet 9 inches from the ground, of my cupboards for storage of small bottles. It is 8 inches wide and fitted with three pieces of wood nailed together like a flight of steps. The bottles are labelled at the



top part in bold letters, and all the poison bottles carry the red danger light beneath. The assistant can see at a glance what he requires, and get it without twisting his back or breaking his neck. I have sometimes found a poison cup-

board placed in the most inconvenient position, as if the deeds of the proprietor were evil and it was necessary to keep this fixture in darkness.

I am, sir, yours truly,

T. T. WADE.

Indian Mixtures.

SIR,—With reference to Lord Reay's remarks (*vide THE CHEMIST AND DRUGGIST*, May 1, 1886) about his experiences with “*the mixture,*” I should imagine his Lordship must have procured “*the mixture*” from a Government Dispensary, and not from any of the European chemists, otherwise his friend “*the mixture*” surely could not have differed so materially in colour and taste.

Lucknow, June 5.

Obediently yours,

W. C. KIDD.

The Poisons Schedule.

SIR,—Your correspondent “*H.*” (169/72), in his desire to sit upon “*Mens Conscia Recti,*” has himself fallen into error. While poisonous vegetable alkaloids are in Schedule 1, morphia and its preparations are in Part 2, as are also opium and its preparations; the distinctive mentioning of morphia and its preparations, in my opinion, removing it from the general category of “*poisonous vegetable alkaloids.*”

June 28.

Yours,

H. W.

[“*H. W.*” is in error. “*All poisonous vegetable alkaloids and their salts*” are in the first part of the schedule, and this description of course includes morphia. The line in the second part of the schedule reads, “*Morphia, preparations of,*” not “*Morphia and its preparations,*” which is different.]

Tincture of Cantharides.

Mr. J. Agar (Clevedon) writes:—“*Under Part 1 of the Poisons Act, 1868, it is required that arsenic, aconite, ergot, and their preparations be registered, &c., previous to sale; cantharides also are mentioned, but not their preparations. Would a chemist selling tinct. lyttæ without registering the same be liable to prosecution?*”

[“*Cantharides*” appears under Part 1 of the schedule, and “*Cantharides, tincture, and all vesicating liquid preparations of,*” under Part 2. It is quite clear, therefore, that, when the flies themselves are sold the sale must be registered, but that when the tincture is sold registration is not necessary. But the preparation must be duly labelled, and can only be sold by a registered chemist.]

Curious Breakages.

Dulcamara (7/174) writes to inform us that in many years' experience with Lamplough's Saline, having always had the article in stock, he has never had an explosion. This defence of the accused effervescent reminds us of the Irish prisoner charged with murder. The case had been abundantly proved, and Pat was asked if he had anything to say before sentence was passed upon him. “*Faith, and is it on the evidence of these three or four spalpeens that your honour is going to hang me?*” “*Assuredly, Patrick; their evidence is very clear: they saw you kill the man.*” “*But, my lord, I could bring a hundred witnesses who didn't see me do it.*”

SIR,—In your last issue I notice a letter on the above subject from Mr. Arthur Deck, in which he dismisses the subject of Lamplough's saline in a very few words. I know Mr. Deck, and have a very high opinion of his abilities and judgment, but in this case I must beg to differ from him.

You have had, Sir, many accounts of Lamplough's saline bursting, but not one of any other maker (and there are hundreds), each of which contains ingredients which would undergo a chemical change if put up in damp bottles. Is Lamplough the only one careless about the drying of his bottles? It must be so if Mr. Deck's theory is correct. And now for my experience.

About two years ago, as my assistant was standing in the shop he heard a loud report, and immediately after saw a

flash issue from the door of a glass case opposite him. Nothing seemed disturbed, but on opening the door he found a white powder all along the edge of one shelf. He traced this to a bottle of Lamplough, and found that this was burst open all down one side the paper and wrapper as though they had been cut with a knife; about 5ss. of the powder had been blown out, the remainder seemed quite unchanged. It was taken out of the bottle, put into another, and I have it now. It is quite dry, and looks just as good as any other saline. It is quite at your service if you would like it sent up for examination.

I should not have troubled you with my experience, but have not seen these two points touched upon in any other case—the flash and remaining powder saved. The assistant is still with me.

Yours faithfully,

ARTHUR I. TAYLOR.

St. Leonard's-on-Sea, June 30.

SIR,—You must excuse my not answering your letter at an earlier date, from the pressure of business at the time it was received, occasioned by the change in my business. The bursting, occasionally, of a bottle of the pyretic saline after it has been kept even for years, might be owing to some atmospheric change; but I have sample bottles that were prepared for the Crimean expedition perfectly good at this time. Occasionally experience tells that saline preparations made in damp weather, or more especially after or during a severe frost, are most difficult and uncertain. Should the bottle have the least degree of moisture or damp air, slow but certain interchange of elements takes place, that gives rise either to the solidifying of the compound or, if more active, to the bursting of the vial. In either case I have always been happy to replace and forward to the firms without charge a fresh supply. A window exposed to the south is not a good position, and the mysterious disruptive manifestations of window carboys after twenty-five years' exposure is another matter that might well engage the minds of chemists who, like myself, have suffered from the same annoyance. Having, I think, ascertained the cause of these explosions so far as the pyretic saline is affected, I trust it will remove from the minds of the chemists any fear of further annoyance from this or other causes.

June 30.

I am, dear Sir, yours respectfully,

H. LAMPLOUGH.

Sprained Joints.

SIR,—I have two customers who have sprained their knees, by bowling at cricket, I fancy, and any jerk or exertion causes them pain. No. 1 has had it for a month; knee not swollen, but weak; has been wearing an elastic bandage, but with no good result. No. 2 about a fortnight; knee puffed and swollen at both sides, not painful, though, to the touch. Would a stimulating liniment or lin. iodi be best?

Yours, &c.,

NOTTS. (174/62)

[We are informed that if cotton is saturated with chaulmugra oil and bound tightly on to the joint with a bandage the pain will leave in a few days, and the joint be restored to use. The pain in the first instance may be deadened by solution of cocaine.]

Cultivation of Medicinal Plants.

Mr. Thomas Christy sends us a few plants of the *Mentha arvensis*, standing fully 2 feet 6 inches high, and with a good peppermint odour in the leaves, grown in his garden at Sydenham on clay-land.

Mr. A. E. Beard, of 116 Fitzroy Street, Cambridge, wrote to Mr. Christy in consequence of the recent correspondence in this Journal, and, in response to our inquiry for particulars, sends us the following details of experiments he had made:—

During a tedious convalescence I tried a little drug-growing for amusement. I did nothing systematically, but set all the seeds I could lay hands on, and with the following results, which, you will see, are not worth much to anybody. I grew

henbane under glass, and planted the young plants out when of good size, and found that the seed I used produced both annuals and biennials. I was not so successful in growing henbane in the open, as the ground was too poor to produce good plants; and, of course, if the first year's growth is not large the second year's will be correspondingly small. Stramonium, I found, grew freely under glass, but when big enough to transplant, the herbs were half bitten off by slugs. However, I managed to get about fifty decent plants, which yielded nearly as much seed as leaves. I expected that was because they had been started on the hotbed under glass. I also had a small bed of flax, which came up and bloomed freely, but the birds did not leave me one single pod to ripen. Fenugreek, colocynth, aniseed, coriander, cummin, and grains of paradise were all tried without success. The seed I sowed was ordinary shop seed, and therefore either too old, too highly dried, or not ripe enough to grow. I managed to get one earth-nut (*Arachis hypogaea*) and one fenugreek seed to grow a few inches, but both disappeared before flowering. I was more successful with dill, and have something like an ounce of seed from two plants, which is not very much, as I lost a great deal by not picking the umbels as they ripened. Was very fortunate with tobacco from seed, and had about twenty good plants between 4 and 5½ feet high, with splendid large leaves. I cannot give you the measurement, as the leaves are at Newport. I had one stem of belladonna set the year before, which sent up five or six good stems and bloomed freely last year, developing a root of several pounds weight. Have had a greater veneration for the patience of the Turks, &c., since I tried to collect opium from a number of white poppies I had last year. I tried vertical and horizontal incisions (Indian and Turkey methods), and managed to scrape one drop from the first capsule, some of which I left on the next, and so only managed to get a piece about the size of a pea from a dozen or more poppies. I spoilt my poppy-heads, and lost my 3 grain pill of opium, and thus ended my experience in opium-collecting. Have not done much this year, as my father only went to Newport last Michaelmas, and the garden there was like a wilderness till the spring, and was hardly in good order when I left for Cambridge. Have mixed fennel, aniseed, coriander, and cummin together, and sown them in one bed, but only the aniseed has appeared above ground as yet. Have not been fortunate with fenugreek but have one plant coming on. Bentley and Trimen state that fenugreek can be grown in England, and some seedsmen recommend it to farmers for cultivating, but I have found that ordinary seeds will not often germinate. Have made as full a statement as possible in such a brief space, but, as you will see from the above, I have no advice to give which would be of any practical service to anyone. Meanwhile, shall continue to grow such seeds as I can obtain, and when I see a chance of getting anything out of the common—like menthol, which Mr. Christy was kind enough to send me—shall try and grow it, and perhaps at some future date shall be able to give others advice upon the subject. Am engaged at present reading for the Minor, but when that ordeal has been passed, shall be in a better position, and able to give more time and attention to the subject."

Gratitude for Advice.

SIR,—I am much surprised at your comment made on my letter respecting my label sent, "Hop Tonic Bitters" (not "Hop Bitters," as you quote), and being an old subscriber it would have been more to your credit had you omitted the latter part of your reply. "I don't sell it to deceive the public," as you state, for Hop Bitters, and you, as a guide to the trade, ought to be more careful in your opinions. I shall never renew my subscription, neither will my father, and I intend informing several of my wholesale trade friends in London of the matter, who advertise LARGELY in your Journal; in fact, who you reap a greater pecuniary benefit from than the Hop Bitter Company, who evidently are favourites of yours. My letter to you, also your reply, &c., shall appear in the *Pharmaceutical Journal*. Yours, &c.

Folkestone, June 25.

FREDERICK JAMES LEA.

[Why should the readers of the *Pharmaceutical Journal* only have the little treat which Mr. Lea proposes for them?]

Applications for Trade-marks.

SIR, We think it only right to express our appreciation of the feature in your paper of giving a list of trade-marks applied for. It has this week probably saved us from trouble and possibly litigation, in respect of a trade-mark applied for in a matter that we should not have noticed had it not been for your insertion of these applications. We believe it will be appreciated by many in the trade, as not many of them can afford or will be at the trouble to take in the *Trade Marks Journal*.

Bradford, June 25.

Yours respectfully,
R. PARKINSON & SONS.

Brazing Solution.

SIR, I have tried to prepare the "Brazing Solution" of which "Viridis" speaks in THE CHEMIST AND DRUGGIST of June 26, but without success.

The solution obtained has a white precipitate, which on analysis I found to be only hydrate of zinc $Zn(HO)_2$. I am at a loss to know how to dissolve the copper in any way. Would not any copper salt give, in the presence of ammonia, a blue solution? I was unable to find copper at all in the solution obtained. Also, I should be glad to know of what use the sal ammoniac is in the mixture.

Yours, &c.

"O." (173 51.)

The recipe is an impracticable one altogether, and we printed it merely to show how worthless the science of itinerant science-mongers is. "O's" comments show up the recipe sufficiently. A simple brazing solution is made by dissolving two drachms of sulphate of copper and the same of crystallised protochloride of tin in 25 oz. of water.]

173 44. *J.B.*—The *Rhubarb Wine* which has been kept in contact with iron contains tannate of iron. The colour cannot be removed without affecting the medicinal activity of the wine. We shall give the formula required next week.

173 72. *R. M.* *Tattoo Marks* can only be removed by the surgeon's knife.

174 3. *Meiller.*—*Milk Testing.*—Absolute ether (methylated) and absolute alcohol should be used in the lactobutyrrometer method, which, however, is but a rough test at the best, and you are not likely to be satisfied with it. Variation in temperature, for example, affects the result.

173 47. *Leadbetter & Son.*—We have given directions for *Bleaching Sponges* at various times. Make two solutions, one containing 2 drachms of potassium permanganate and an ounce of sulphuric acid in a gallon of water. The other solution to contain 4 oz. of carbonate of potash in a gallon of water. Steep the sponges in the permanganate solution for a few seconds, then press out as much of the solution as possible, wash with cold water, and, if necessary, immerse again in the permanganate—so on until the sponge is sufficiently bleached. Then, after washing well, steep in the alkaline solution to impart a golden colour.

177 55. *Lux.*—*Egg Julep.*—Piesse gives the following:—

Rectified spirit	..	..	..	1 pint
Rose-water	..	..	..	1 gallon
Extract of Rondeletia	..	..	..	1 pint
Transparent soap	..	..	..	1/2 lb.
Hay saffron	..	..	..	1/2 drachm

Shave up the soap very fine; boil it and the saffron in a quart of rose-water; when dissolved, add the remainder of the water, then the spirit, finally rondeletia, which is used by way of perfume. After standing for two or three days it is fit for bottling.

Pheasants' Food.—Respecting the "Caker" and "Parasitic" asked about last week by "W. & S." Messrs. March & Charrington, Newark, say that "Caycar Excelsior" and "Aromatic Compound," manufactured by Messrs. Chamberlain & Smith, are probably intended.

Mr. Potter (Nottingham) sends us similar information.

8 173. *Compare.*—*Indian Brandee or Tincture.*—Some years since the following formula was sent to us as representing the above:—

Spirit, ether, nit.	..	..	..	3viij.
Tinct. rhel. co.	..	..	..	3viij.
Syrup, simplicis	..	..	..	5ij.

But, according to an analysis made by Dr. Campbell Brown on the occasion of an inquest held at St. Helens in 1884, the composition of the tincture would not be represented perfectly by the above. In his evidence Dr. Brown said, "No opium was present, and there was no trace of any ordinary poison. In the contents of the bottle he found about 30 per cent. of its volume of methylated spirit of wine, a small quantity of ether, and a very large proportion of sugar. It also contained two resins, one derived apparently from capsicum. The weight of the two resins together was only 0.012 per cent." He then gave some reasons for guessing that the other resin might have been derived from cannabis indica.

Our correspondent also asks for some information concerning the well-known *Whitworth's Drops*, or *Red Bottle*.

Oil of Worms.

J. G. H. (Derby) sends us the following:—"Oil of Worms," as employed in some parts of this county even now, as an application for rheumatic affections generally, is made by filling a stone bottle with earth-worms and placing it, securely corked, in a heap of fermenting manure for some two or three days, after which period the heat of its surroundings has dissolved the inmates of the bottle to a condition of liquefaction."

C. W. Kay (Hanslet) says he supplies ol. sambuci vir. for "Oil of Worms," and adds that he supposes the smell will have a good 'eel to do with its attraction.

SIR,—In answer to "D. C.," I think the article is "Oil of Earth-worms" (*Oleum Lumbricorum*), which is made thus:—Earth-worms, 1/2 lb.; olive oil, 2 lbs.; white wine, 1/2 lb. Boil till the wine is consumed, then press.

HEDER.

172 44. *Sussex.*—*Petroleum Pomade.*—A correspondent in our last volume, at page 215, says:—"I have found a mixture of 10 per cent. of hard paraffin or cerasin with a heavy odourless petroleum oil, such as can be purchased at 1s. 6d. per gallon, to make a capital pomade when nicely perfumed, and much better and less costly than the mixtures of animal and vegetable fat usually sold."

173 31. *March.*—The mineral sent to us is a pretty specimen of iron pyrites, and is worth about a penny a cwt. The situation in which it was found appears to indicate that its presence there was accidental.

172 18. *Nota.*—*Teething Powders.*—See article on "Dentition" in this issue. A good and safe alternative is hydrarg. c. creta in small doses—from a sixth to one grain, according to age—combined with twice the quantity of bicarbonate of potash. If a purgative is required, use either rhubarb or scammony in proper doses.

173 35. *J. Macdonald.*—*Sympathetic Ink.*—A weak solution of sulphate of copper and chloride of ammonium gives invisible writing which becomes apparent on heating.

Elixir of Proprietary.

Mr. B. J. Kent sends a reply similar to those given last week. He also states that country people term it "Fruits of Potato."

170 56. *Mr. W. Lloyd Williams* writes to the same effect on June 22, and states that the article is still in occasional request in the North of Wales. He says further that in France combinations of the elixir with acetic or sulphuric acid, carbonate of potash, spirit of horseradish, or other aromatics, are occasionally demanded.

54/171. *G. H. J. C.* says the proper title for this is "Elixir of Propotatus."

69/167. *H. S.*—Remedy for Maggot. Professor Williams, of the Edinburgh Veterinary College recommends 1 part of ol. tereb. to 3 parts ol. sesame. In Tuson's "Veterinary Pharmacopœia" liq. hyd. perchlor. (3 to 6 grains to the \mathfrak{z} j. of aqua dest.) is suggested; also acid carbol. \mathfrak{z} j. aqua ad \mathfrak{z} vj. The first-named remedy is the best, as it leaves the minimum amount of injury to the fleece.

Fly Powders.

Plumbi ox. rub.	..	..	..	..	lb. ss.
Plumbi alb.	..	..	..	..	lb. ss.
P. umber ang.	..	..	..	..	lb. ij.
Flor. sulph.	..	..	..	..	lb. ij.
Pulv. helleb. nig.	..	..	..	..	lb. ss.
Ol. animalis	..	..	..	..	3ij.
Ol. picis	..	..	..	..	3ij.

Rub down the leads with the oils and mix thoroughly. Part the fleece down the back, and apply with a flour-dredger.

50/171. *C. D.*—Shop Hours Regulation Act. You will have seen from our last that the Act as now passed does not affect the time of closing shops: it concerns only the length of time during which "young persons" may be employed. The publication of your criticisms would therefore be quite superfluous at present; but if the question should come forward again, we hope you will write to us.

53/171. *R. A. B.*—You can now only obtain registration as a dentist by passing the required examinations. The Registrar is W. J. C. Miller, Esq., B.A., Medical Council Office, 299 Oxford Street, London, W.

6/174. *J. L.*—A registered dentist may claim exemption from jury service, but it is not clear that this exemption applies to coroner's juries. The claim for exemption must be made when the lists are published in September.

14/174. *J. H. J.*—Powder folders. — Your druggists' sundries house will show you all the powder-folders that have been invented so far. We do not see much opening for a new invention in this direction.

64/173. *T. A.*—We are obliged, but do not care to continue the subject.

172/57. *F. A. W.* and *Sussex* (172,44).—Butter Colouring.—The ordinary aqueous colouring is made by boiling together 1 oz. of annatto and the same of carbonate of potash in a pint of water, until the whole of the colouring is extracted. This is not the Danish liquid, as erroneously stated by a correspondent in December last. The Danish colour is oleaceous. Attempts have been made to prepare it by digesting annatto in oil, but without success. A more rational method would appear to be to make a strong alkaline solution of the annatto (as above, for example), and precipitate the colouring resin by adding hydrochloric acid to slight acidity. Collect the resin on a filter-paper, well wash it, dry, and dissolve in cotton seed oil.

173/14. *Antonio Villegas* (Madrid).—Hæmoglobin, the colouring-matter of red blood-corpuscles, is best prepared from the defibrinated blood of the dog, cat, guinea-pig, or rat. The defibrinated blood is mixed with an equal volume of water, and to each four volumes of this mixture one volume of alcohol is added, and the whole set aside at a temperature of 0° C. for twenty-four hours. The precipitated hæmoglobin may then be collected and dried, preferably over sulphuric acid.

Chances in New Zealand.—Mr. Geo. F. Dodds, of Port Chalmers, New Zealand, writing to us on May 15, says: "I

consider your new weekly publication a great boon. Business in New Zealand at present is extremely bad, and I should advise gentlemen in our line to keep clear of this colony for some time, the market being overstocked."

SIR,—Am I infringing any rights of Pepper's by calling my preparation "Quinine and Iron Tonic" on handbills and labels?

June 30.

NEMO. (174,46.)

[We should not suppose that Mr. Pepper would claim that he invented the title quoted, and, in any case, we should not think it possible for him to establish an exclusive right in it.]

174/74. *J. C.* Black Stain for Wood.—Brush the wood with a decoction of galls, then with a solution sulphate of iron.

To Decolorise Oils.—Dark castor oil is bleached by exposure to the sun's rays. There are many other ways of decolorising, such as by animal charcoal, but each kind of oil may require special treatment.

11/171. *C. G.* writes: "Please state in next issue if a licence is required to sell medicines other than those liable to a stamp. Customers of mine selling penny boxes anti-bilious pills, &c., have been warned by the Excise that they cannot do so without a 5s. licence."

[Licence is only required for selling medicines which ought to be stamped. But it may be that the penny boxes of anti-bilious pills are so labelled that they ought to be stamped.]

171/26. *J. S.* Waxed Tissue Paper. The wax is applied to the hot cylinders through which the paper finally passes in order to impart to it a finished surface.

170/67. *American Chips.*—*Subscriber* states that "Querciton bark used to be sold for this, along with alum, as a yellow dye." The bark, we may state, is derived from the black-oak, *Quercus tinctoria*, which grows abundantly in the United States. For the market it is deprived of the epidermis, and reduced either to powder or shreds, as was the sample sent to us by Mr. Cook. The colouring principle is a glucoside named *quercitrin* or *quercitrin acid*. The bark also contains tannin. Apart from its use as a dye, it is useful as an astringent and tonic in diarrhoea and intermittent fever, and it appears to be useful in such cases, in the form of a decoction, as an external application for children who will not take internal remedies. Otherwise the bark resembles common oak-bark.

Stilium asks for the modern equivalents for the following preparations of antimony. *Liver of Antimony.* Prepared by deflagrating black antimony with nitrate of potassium. The liver being exhausted with water to remove sulphate and sulphantimoniate of potash, *Crocus of Antimony* is obtained, which is a mixture of oxide and sulphide of antimony. *Flowers of Antimony.*—Crystals of the trioxide obtained by subliming the metal. *Kermes Mineral* is an oxysulphide. *Algaroth's Powder.* An emetic powder invented by Victor Algaroth of Verona: a compound of terchloride and tetroxide ($2\text{SbCl}_3, 5\text{Sb}_2\text{O}_3$). *Ethiops Antimonialis* is a mixture obtained by triturating equal parts of *Ethiops mineral* and sulphide of antimony. *Ethiops mineral* is a black amorphous sulphide of mercury with a large excess of sulphur. *Glass of Antimony* is antimony ash fused with a little black antimony—an oxysulphide. *Sulphur of Antimony* is either antimonium sulphuretum (black antimony), or antimonium sulphuratum, the golden sulphide. *Cinnabar of Antimony* was made from the residue left in the retort after butter of antimony had been distilled from black antimony and corrosive sublimate. This residue was sublimed and yielded a dark red sulphide of antimony.

56/169. *A. Y. Z.* asks for the formula of O. P. Brown's Herbal Ointment.

69/168. *P. W.*—**Cordials.**—Name one or two you require and we will try to find formulæ. The usual way to make them is to keep a very weak spirit, sweetened with about 2 lbs. of sugar to the gallon, and mix with it a little of the essence supplied by the compounder. This is the wiser course, as you are liable to very heavy penalties if you manufacture such products without a compounder's licence. Messrs. W. J. Bush & Co., of Artillery Lane, or Messrs. Stevenson & Howell, of Southwark Street, will supply you with the essences and colours, and will no doubt give you any information you may require.

Copyright.

14/169. *J. N.*—The author of a copyrighted book can be protected against piracy. A court of equity would decide in any particular case whether piracy had been committed or not. Fair quotation is permitted. It is, however, impossible to state definite limits. The paragraph you propose to take might, we think, be adopted without much danger. Certainly the author of the work named, when it is already cribbed, could not prevent you.

168/1. *Crop an l Spurs* wishes to know if any subscriber to THE CHEMIST AND DRUGGIST could favour him with formula of probable composition of *Molliscorium*, a greenish black oily liquid used for softening black leather harness.

168/8. *L. O. R.*—**Liquor Magnesie Carbonatis**, like other carbonated waters, is liable to be contaminated with lead if vessels made of that metal be used in preparing it.

Information Wanted.

167/43. *Specs.*—Composition of **Anti-Calcaire**.

168/8. *L. O. R.*—Description and maker of apparatus for **Fluid Magnesia**.

169/10. *Sussex.*—Please refer to index under *Paraffinum melle*.

169/53. *J. H. H.*—**Silvering Mirrors.** An amalgam of lead, tin and bismuth, of each 1 part, and mercury 10 parts, is generally used. The glass is warmed slightly and thoroughly cleaned, and the fluid amalgam placed upon it and spread over the surface by means of a hare's foot.

DISPENSING NOTES.

Sanitas Oil and Benzoin.

SIR,—Information as to first portion of following prescription by Dr. Dobell, of Bournemouth, will much oblige.

Benzoin	3j.
Sanitas oil	3j.

Dissolve with heat. Sig. No. 1.

Ol. eucalypti glob.	3j.
Ol. pini sylvest.	3j.

Misce. Sig. No. 2. A teaspoonful of No. 1 and a teaspoonful of No. 2 to be vaporised each night in the bedroom.

Having tried to dissolve benzoin in sanitas oil unsuccessfully, correct method of dispensing the preparation, stated to be a local one, is requested. Yours,

OLEUM SANITAS VER.

[We have no difficulty in dispensing the prescription as written, by placing the benzoin in a small flask along with the oil, and warming with hot water. The benzoin dissolves quickly, and leaves only the woody matter and other impurities undissolved. It is better to powder and sift some benzoin, and take a drachm of the siftings.]

Vegetable Extracts in Suppositories.

SIR,—Can you kindly inform me how the following should be mixed, so as to make a uniform mass for suppositories?

Ext. opii	3 grains.
, belladonnæ	1 "
Ol. theobromæ	20 "

Flat suppos.

I have tried the usual method—rubbing the extracts in a mortar with a little of the ol. theobromæ, &c.—but on applying the slightest heat, so as to run into the suppository mould, the extracts always separated.

Yours faithfully,

HOMO. (172/7.)

[It is advisable in this case to use 18 grains of ol. theobromæ and 2 grains of white wax. Rub down the extracts in a mortar with sufficient water (one or two drops) to make a smooth soft paste; add half of the fatty matter to this gradually, so that a perfect mixture may be obtained. Then transfer it to the dish, and dissolve in the remainder of the fat, aiding the process by the heat of a water-bath if necessary. *Nothing else than a water-bath should ever be used in making suppositories, otherwise the dish becomes too hot, and gives bad results.* The dose of opium appears excessive.]

172/28. **Phosphate Syrup of Hypophosphites.**—Where the formula given in 1835 volume, page 705, errs is in using too much water for the quinine and too little for the inorganic salts. We reprint the whole with corrected directions:—

Take of

Calcium hypophosphite	740 grains.
Sodium "	256 "
Potassium "	192 "
Manganese "	192 "
Ferrous sulphate	370 "
Strychnine	4 "
Quinine sulphate	128 "
Dilute sulphuric acid	q.s.
" hypophosphorous acid	q.s.
Sugar (granulated)	24 oz.

Dissolve the ferrous sulphate in 5 oz. of water, and 5j. of hypophosphorous acid with the aid of heat; bring to the boil, and add 228 grains of calcium hypophosphite. Stir well, and transfer to a filter. Wash with 2 oz. of water. To this solution add the remainder of the hypophosphites and 4 oz. of water. Shake well, and filter if necessary. Now dissolve the quinine in 2 oz. of water and sufficient dilute sulphuric acid, and add liq. ammoniæ until that alkali is in very slight excess. Collect on a paper filter, and wash until the washings are free from sulphate, but using as little water as possible. Dissolve the quinine on the filter without removing from the funnel, with 5ij. (or q.s.) of hypophosphorous acid and 5v. of water. Mix this with the other solution, make up to 16 oz. with water, and dissolve the sugar in it without heat. The whole should measure 32 fluid ounces. Orange-flower water may be added, but it is no advantage. *Note.*—The manganese salt is better made extempore by taking an equivalent quantity of the sulphate, precipitating with carbonate of soda, collecting, and well washing. Then dissolve in hypophosphorous acid, q.s. One-third of the quantity given in the formula is sufficient.

A Manganate and an Alkaloid in Pill.

SIR,—Will any reader give me information as to how the following prescription should be dispensed?

Ferri mangan.	3j.
" oxyd.	3j.
Cinchonin. mur.	5iss.

Ft. pil. 48. Silver.

MANAGER. (173/60.)

Dispensing of Oleates.

SIR,—I have had occasion to dispense the oleate of bismuth, but the strength (10 per cent.) was given in the prescription. The normal oleate being about 20 per cent., I diluted it accordingly. In another prescription the strength was not given, and I used the same as above.

HEDER.

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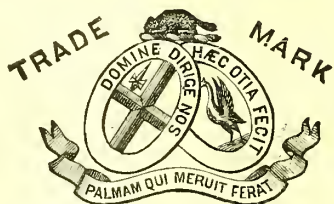
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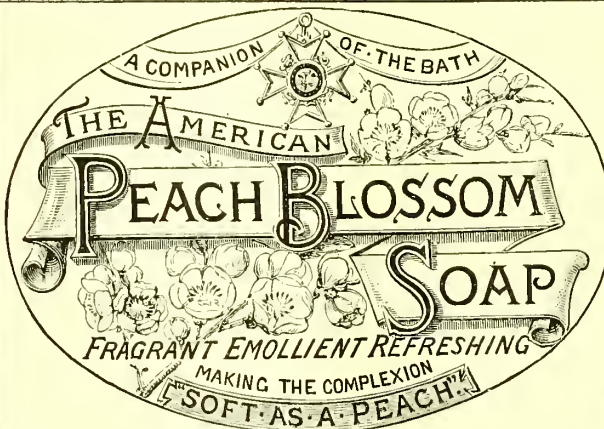
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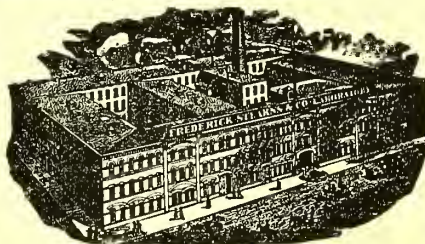
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" Trade	24s. and 43s. per doz.

FOR HOSPITALS AND DISPENSING:

In Bottles, Retail, 1-oz.,	6s. 6d.;	2-oz.,	10s.;	4-oz.,	16s.;	8-oz.,	27s.;	and 16-oz.,	48s. each.
" Trade, "	60s.;	" "	96s.;	" "	156s.;	" "	264s.;	" "	480s. per doz.

ORIGINAL INVENTOR—

W. MARTINDALE, PHARM. CHEMIST, 10 New Cavendish St., Portland Place, W.

WYLEYS' GELATINE COATED OVAL PILLS.

The only Gelatine Coated Oval Pills of ENGLISH MANUFACTURE in the Market. Special List of REDUCED PRICES on application.

POWDERED DRUGS. All ground in our own Mills, and of Guaranteed Purity.

EXTRACTS (ENGLISH).

CONCENTRATED INFUSIONS AND DECOCTIONS. GRANULAR EFFERVESCENT PREPARATIONS.

GELATINE COATED HORSE BALLS (PATENTED).

Forwarded on application { PRICES CURRENT, LIST OF SPECIALITIES, PILL LIST (GELATINE OR PEARL COATED).

WYLEYS & CO., COVENTRY.

LONDON ADDRESS—1a BURY STREET, ST. MARY AXE, E.C.

Iceberg Brand Cod Liver Oil. Iceberg Brand

ABSOLUTELY PURE.

A sweet, palatable Oil of such delicate flavour that it can be assimilated by the weakest digestion. Manufactured solely by Messrs. J. JENSEN & Co. (Limited), at Brettesnoes, Loffoten Islands, the largest makers in Norway. Ice refined, it keeps perfectly bright in the coldest climates.

TRADE TERMS, in Bottles: Imperial ½-Pints, 18/; Pints, 31/6; Quarts, 58/6 per dozen.

PRICES IN CASKS AND SAMPLES FREE ON APPLICATION.

CAUTION.—In ordering, specify JENSEN'S ICEBERG BRAND, to ensure obtaining the BEST QUALITY and LARGEST QUANTITY at the LOWEST PRICE.

Counter Bills supplied free, printed at foot with Name of the Retail Vendor. Every bottle will be put into a Carton case, on which the local agent's name can be printed if the order is of sufficient importance to warrant this expense. Show-cards now preparing.

Sole Agents—HERTZ & COLLINGWOOD, 101 Leadenhall St., London.

PREPARED MALT FOOD.

This article, neatly packed, the labels giving full directions, but without name or address, so that it may be adapted by Chemists in their own name, is becoming largely used, and those who have not endeavoured to introduce it are invited to give it a trial.

In oval Tins, to Retail at 6d., 1s., 2s. 6d., and 6s. each; Wholesale, 4s., 7s. 6d., 18s. 6d., and 40s. per dozen, less 10 per cent. discount; or 42/ cwt. in bulk, less 5 per cent. discount.

In quantities of one gross of either size special labels printed with name and address of Chemist.

Testimonials illustrating how the Food is appreciated are frequently sent us.

"Send 3 dozen Malt Food, and 7 lbs. for Home Consumption; it is A 1."
"I am very pleased with the Malt Food; it sells well and gives great satisfaction. Please send me another gross as soon as you can, as we are nearly out of it."

"Am happy to say that the Malt Food is moving off; I sold nearly two dozen 1/ size last week."
"I find the Malt Food appreciated, and think the sale will steadily increase."
"The Malt Food answers admirably."

SOUTHALL BROS. & BARCLAY, BIRMINGHAM.

For particulars respecting the New Herbs, Juices, Extracts, Waters, Rose Leaves, &c., see July Price Current.

SPECIAL AGENTS FOR THE UNITED KINGDOM FOR PELLETIER'S QUININE CAPSULES.

MANUFACTURERS of the "SANITARY TOWEL," the "A 1" COD LIVER OIL, &c.

HIRST, BROOKE & HIRST, LEEDS,

MANUFACTURERS OF ALL KINDS OF

PHARMACEUTICAL PREPARATIONS.

MANUFACTURERS OF

ACETIC ACID—Very pure, and of fine flavour.

LIQ. AMMON. FORT., .880—Free from unpleasant odour, and of full strength.

GRANULAR CITRATE OF MAGNESIA—In bottles or in 1-cwt. drums.

ORANGE WINE—Of finest flavour and quality, and specially suited for the preparation of Orange Quinine Wine.

WOOD NAPHTHA, CHARCOAL, and all products of the distillation of wood.

SAMPLES AND PRICES ON APPLICATION.

TOWLE'S CHLORODYNE

The Original Preparation, as approved by the Medical Profession on account of its known composition and uniform strength.

Retail at 13½d., 2s. 9d., 4s. 6d., and 11s.

We beg to inform our numerous customers, and the Trade generally, that we are **WITHDRAWING THE 4-OZ. AND 10-OZ. DISPENSING** sizes, and, instead, are putting up **AN 11s. RETAIL SIZE**. The wholesale price of the 4s. 6d. and 11s. will be at the same rate per oz. as the old 4-oz. and 10-oz. We shall still continue the undermentioned as usual.

LIQ. CHLORODYNE

As originally introduced by A. P. Towle, and free from stamp duty for dispensing. 4 oz., ½ lb., 1 lb.

Also in quantities of 6 lbs. and upwards at special quotations.

TOWLE'S CHLORODYNE LOZENGES AND JUJUBES,

In 1, 2, and 4 lb. bottles, and 6d. and 1s. boxes. Foil lined, and neatly got up for the counter. Quantities of 7 lbs. of Lozenges and upwards stamped with chemist's own name free of charge.

TOWLE'S (1s. 1½d. and 2s. 9d. per Box) ANTIBILIOUS PILLS.

SOLE PROPRIETORS OF

ESTABLISHED

THORNTON'S PREPARATIONS FOR THE HAIR.

50 YEARS.

THORNTON'S TOILET CREAM, 1s., 1s. 6d., and 2s. 6d. per Pot.

THORNTON'S LOTION AND AMBOLINE, each 2s. 6d. per Bottle.

A. P. TOWLE & SON, Chlorodyne Manufacturers,

75 BACK PICCADILLY, MANCHESTER.

Show Cards and Bills with Name on application, with instructions for forwarding.

GOLD MEDALS—DUBLIN, 1882; BOSTON, 1883
LONDON (INTERNATIONAL EXHIBITION), 1884.

SIR JAMES MURRAY'S PURE FLUID MAGNESIA.

The ORIGINAL Article, as prepared by the Inventor, Sir James Murray, M.D.

For over 60 years in use as an excellent remedy in cases of
ACIDITY, INDIGESTION, HEARTBURN, GRAVEL, AND GOUT.
Sold by all respectable Chemists, in **LARGE-SIZED** Bottles (the 1s. size containing nearly
Double the quantity usually sold at that price), at 1/, 2/6, and 3/6 each.

CAUTION.—Observe that the Signature of the Inventor is on every label.

SIR JAMES MURRAY'S FLUID CAMPHOR

Is a valuable remedy in cases of **SLEEPLESSNESS** and **WEAK NERVES**. Bottles, 1/ and 2/ each.

SIR JAMES MURRAY & SON, Chemical Works, Temple Street, Dublin.
BARCLAY & SONS, 95 Farringdon Street, London.

G. VOGT, IMPORTER and EXPORTER

12 LAURENCE POUNTNEY LANE,
CANNON STREET,
LONDON, E.C.

ESSENTIAL OIL OF

Lavender, Spic, Rosemary, Thyme (red), Thyme (white), Neroli,	Petit Grain, Geranium, Aniseed, Carraway, Cloves, Cassia, Cedar Wood,	Cinnamon Leaf, Citronelle, Lemongrass, Gingergrass, Sassafras, Peppermint,	Bitter Almond, Patchouli, Otto of Roses, Sandal Wood, Mirbane, Eucalyptus,	Lemon, Bergamot, Orange, Vetivert, Ylang Ylang, Bay, Linaloe.
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SAMPLES AND PRICES UPON APPLICATION.

MEDICATED LOZENGES. T. BAGE BLYTON & CO.,

(Successors to RICHARD TWEMLOW),
PHARMACEUTICAL CHEMISTS, and Manufacturers of **BRITISH** and **THROAT HOSPITAL**
PHARMACOPŒIA and every description of
MEDICATED LOZENGES, MEDICATED TABLETS, etc.

PROPRIETORS OF
TWEMLOW'S CHLORODYNE LOZENGES, BRONCHIAL LOZENGES, AND WORM TABLETS.
Chemists' own Formula made up and stamped as required. Samples and Price Lists will be sent upon receipt of Business Card.

Sole Proprietors of **TWEMLOW'S CHLORODYNE.**

T. BAGE BLYTON & CO., 76 Gordon St., Lower Broughton, **MANCHESTER.**

*In the High Court of Justice, London, June 4th, 1886.
Before Mr. Justice North.*

THE HOP BITTERS Co. v. H. PRATT, CHEMIST, YORK.

THE HOP BITTERS Co. v. W. PLATT, CHEMIST, MATLOCK BATH.

In these Actions the Plaintiffs, who carry on business at 41 Farringdon Road, London, and known as the Hop Bitters Co., sought to restrain the Defendants from infringing their trade-mark of "Hop Bitters." Mr. Aston, Q.C., and Mr. Theodore Dodd (instructed by Messrs. Seeley & Son) appeared for the Plaintiffs. The former, in opening the case, said this application was made on behalf of the Hop Bitters Co. in respect to their well-known Hop Bitters, and he now moved for an Injunction "to restrain the Defendants" from infringing the Plaintiffs' trade-mark and vending imitations until the trial of these Actions. Mr. Bardswell, on behalf of the Defendants, elected that the motions be treated as the trial of the Actions.

The Judge immediately granted the Hop Bitters Co. a perpetual Injunction against both Defendants, and that they be condemned to pay the whole of the costs.

CAUTION.—We direct attention to the Actions reported above, and have fully determined to ferret out all infringements of our rights and (without further notice) treat them in a like manner.

If any person vending an imitation of "Hop Bitters" is in doubt as to whether he is infringing the trade-mark and rights of the Hop Bitters Co., he has only to ask himself whether he ever put up and sold any form of so-called Hop Bitters of his own manufacture till we had created a demand and popularised Hop Bitters at an enormous expenditure of money.

We know what the answer must be to this question. We shall protect our rights to the fullest extent, and prosecute every person, be they whom they may, who attempts to trade on the reputation and popularity of Hop Bitters, by putting up imitations of any description whatever.

HOP BITTERS CO.

ROCHESTER, N.Y., U.S.A.
LONDON, ENGLAND.
TORONTO, CANADA.

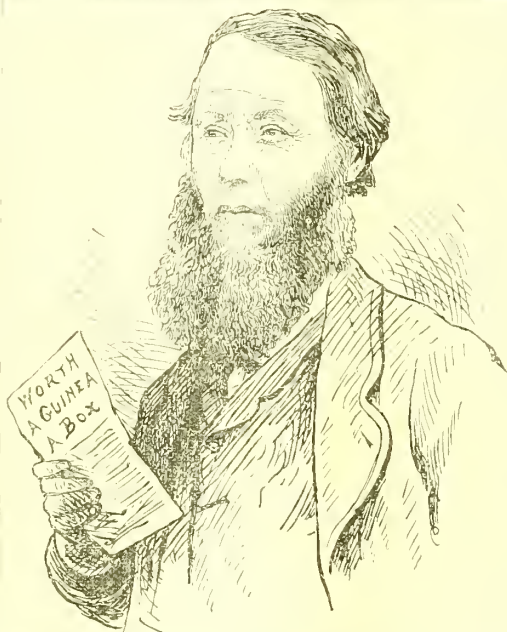
ANTWERP, BELGIUM.
PARIS, FRANCE.
MELBOURNE, AUSTRALIA.

BEECHAM'S PILLS.

THE CHEMIST AND DRUGGIST offered a Prize for the best verse of four lines suitable for the advertisement of any pill, powder, mixture, liniment, or other medicine, proprietary or otherwise, usually sold by Chemists.

IN THE REPORT OF THE COMPETITION IT IS STATED THAT—

“By far the most popular medicine among the ‘poets’ would seem to be Beecham’s Pills. These have inspired eighteen hymns of praise, a fact which, we think, justifies us in presenting, as we do on this occasion, a sketch of their prosperous inventor.



“Mr. Beecham, who is one of the most enterprising of modern advertisers, has spent a good many years in the effort to induce the world to have the same faith in his pills which he himself always possessed; and he now indulges in the costly business of agriculture in Buckinghamshire, while still exercising a controlling influence over his business at St. Helens.”

(From THE CHEMIST AND DRUGGIST, June 12, 1886.)

Once I was sick and faint and sad;
Now I am blithe as any lad;
I walk and climb my native hills,
The secret lies in Beecham's Pills.—R. S. D.

For biliousness and indigestion—
This “fact” cannot be called in question;
Search North, South, East or West,
You still find Beecham's Pills the best.—T. W. H.

If sickness be your burden through life,
Which baffles the skill of all earthly advice,
Just try one box of Beecham's Pills,
And thus save all the doctor's bills.—J. B.

A blessing greater far than wealth
Is to be free from earthly ills;
You can enjoy the best of health
By duly taking Beecham's Pills.—J. H. T.

With stomach sore and aching head
How many seek a sleepless bed!
The cure for these and other ills
Is just one box of “Beecham's Pills.”—T. A.

Let Devon's lovely valleys,
Let Scotland's rugged hills,
Let London's slums and alleys
Sing praise to Beecham's Pills.—W. L. G.

Beecham's Pills will cure the ills of every tribe and nation,
No matter what may be their lot, no matter what their station.
These simple pills save doctor's bills, you need no long prescription,
So when you're ill just take a pill, a pill of this description.

W. C. T.

Breathes there a man with soul so dead
Who never to himself hath said,
“The remedy for all my ills
Is Beecham's Pills, Beecham's Pills?”—G. A.

Take, O Sick One, Pills of Beecham;
He's the only one to teach 'em
How the power of drugs can reach 'em.
Happy, philanthropic Beecham!—R. W. C.

It's “a wonderful medicine” all must allow; “a fact worth knowing” we're told;
It “acts like magic” in all our complaints, it suits both the young and the old;
It strengthens the whole of the “human machine,” and cures every one of our ills;
Would you learn the grand secret, and try for yourselves? Get a box of our popular Pills.—MARCEB.

Beecham's Pills will cure your ills,
In spite of other stuff and pills;
When other trash is tried and fails,
These make you tell far different tales.—N. S.

A WONDERFUL MEDICINE!

Who maketh the pills (name beginning with Bee)
That are worth, every box, a whole golden guinee?
If they'd sell for half that we should think it a spree;
But the stores spoil the trade with their tenpence ha'p'nee.

H. A. C.

Daily we read advertisements and bills
Praising the virtues of some patent pills;
But Beecham's Patent Pills are worth a mine of wealth,
For giving to the sickly the roseate hues of health.

J. W. L.

How small of all that human hearts endure
That part which laws or kings can cause or cure!
How vast the good that Beecham's Pills have done
The sick, the nervous, and the bilious one!

W. C. T.

He felt very ill, and wished he was well;
He took Beecham's Pills, now he's sound as a bell;
He calls on his friends and tries hard to teach 'em
Whenever they're ill to take pills made by Beecham.

C. F. S.

If long you would live and be free from life's ills,
Take a dose now and then of Beecham's good pills;
Though worth guinea a box, if you have but a shilling
Most chemists to serve you, I am sure, would be willing.

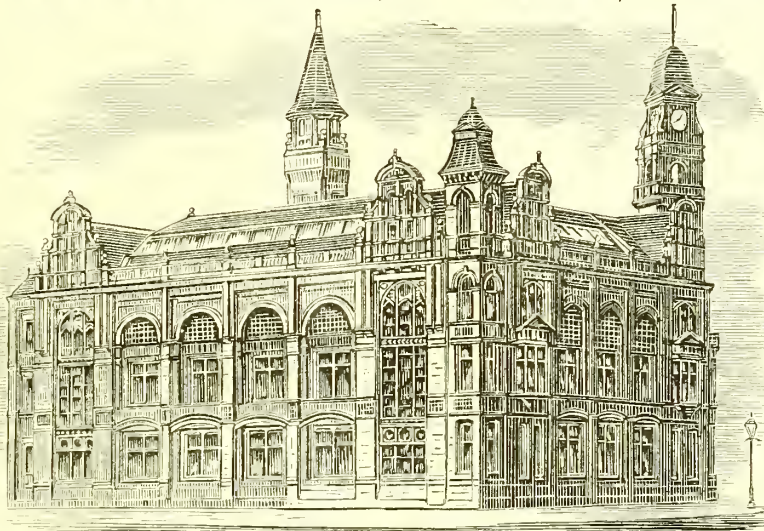
A. W. S.

There was a young lady at Brighton,
Who when coughing her parents did frighten;
She had tried morphia, ipecac, poppies, and squills,
But nothing relieved her like Beecham's Cough Pills.

C.

NEW MANUFACTORY, ST. HELENS, 1886.

In South Africa
Beecham's Pills
have the largest
sale of any Patent
Medicine ever in-
troduced into that
part of the world.



All Patent Medicine
Dealers abroad will
find Beecham's Pills
one of the most
profitable and one
of the best selling
articles in the
market.

BETWEEN THIRTY AND FORTY YEARS AGO

A Medicine was introduced to the public, and suffering humanity was invited to try the same.



TRADE MARK.
No. 1416.

The Proprietor knew from experience that success was certain, but the human breast is so imbued with prejudice that it forms one of the strongest barriers to break down and the greatest enemy to overcome before any headway can be made towards the mansion of success. Truth has often proved itself to be "stranger than fiction," and it is a fact as solid as truth that

BEECHAM'S PILLS

have now become one of the leading Patent Medicines of the present day. From North to South, and from East to West, they are to be found in the homes of the rich and the poor. All classes of society use them, and they are by thousands declared to be

WORTH A GUINEA A BOX.

ST. HELENS, LANCASHIRE, ENGLAND.

CHEAP GLASS FILTERS.



Style "K."

The **ONLY** Reliable
Filters.

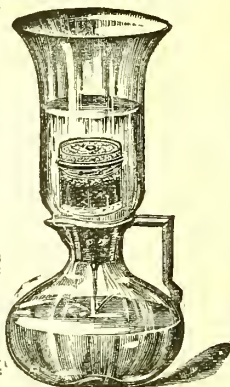
Made at **OUR OWN**
Glass Works.

No Intermediate Profits.

STYLE "K."—Plain: 1 pint, 2/1;
2 pints, 3/; 3 pints, 4/; Engraved:
1 pint, 2/6; 2 pints, 4/; 3 pints, 5/.

STYLE "L."—Plain: 1 pint, 3/;
2 pints, 4/; 3 pints, 5/; Engraved:
1 pint, 3/6; 2 pints, 5/; 3 pints, 6/.

STYLE "M."—Plain: 1 pint, 4/1;
2 pints, 5/6; 3 pints, 6/6; Engraved:
1 pint, 4/6; 2 pints, 6/6; 3 pints, 7/6.



Style "L."

Very **LIBERAL** Discount
to the Trade.

Judson's GLASS WORKS,
ORMSIDE STREET,
OLD KENT ROAD, LONDON.

D. JUDSON & SON
(LIM.),
SOUTHWARK STREET,
LONDON.



Style "M."

By Appointment to H.R.H.

BIGG'S

the late Prince Consort.

SHEEP AND LAMB DIPPING COMPOSITION,

For Destruction of Ticks, Lice, &c., and Prevention of Fly.

HAS NOW BEEN USED WITH GREATEST SUCCESS FOR NEARLY HALF A CENTURY.

PAMPHLETS ON APPLICATION.

LEICESTER HOUSE, GREAT DOVER STREET, BOROUGH, LONDON.

In any Town where no Agent exists Chemists are requested to apply.

WHOLESALE AGENTS FOR CANADA AND UNITED STATES—

EVANS, SONS & MASON, Limited, Montreal, Canada, and Rouse's Point, New York.

HORSE, CATTLE, AND SHEEP MEDICINES.

BY ROYAL APPOINTMENT.



By Special Warrant,
Dated 27th December, 1865.

DAY, SON & HEWITT,

INVENTORS AND SOLE PROPRIETORS OF THE



By Special Warrant,
Dated 10th February, 1866.

"ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS.

Containing the following Matchless Remedies for all Disorders in Horses, Cattle, Calves, Sheep, & Lambs:

THE CHEMICAL EXTRACT.

For assuaging pain and inflammation in all wounds, saddle galls, strains, bruises, and swellings in horses; for painting after calving and lambing, and for swollen udders and sore feet. 1/4-dozen box, 7s. 6d.

THE RED DRENCH

Celebrated for inflammatory disorders; such as fevers, pleurisy, foot-and-mouth complaint, yellows, surfeit, and red water. Also for difficult calving and lambing. 3s. 6d. and 13s. per dozen box.

THE GASEOUS FLUID.

Unmatched for colic or gripes and debility in horses. For colds, chills, shivering fits, and diarrhoea in cattle, calves, and sheep. 20s. per dozen box.

THE CARMINATIVE CHALK.

A warm stomachic in severe diarrhoea or flux, by way of change of the gaseous fluid in great irritation of the bowels. 1/4-dozen box, 10s.

Price of Chests, with "Guide to Farriery"—No. 1, £6/6/0; No. 2, £2/16/6; No. 4, £2/7/6 (for horses only). Carriage paid.

THE RED PASTE BALLS AND RED POWDERS.

Invaluable for ill conditioned horses and after hard hunting and driving For coughs, colds, staring coat, itching, swollen legs, and want of strength. The Powder is to be given in the feed. 7s. 6d. per dozen.

THE BLACK PHYSIC BALLS

Excellent for confined bowels and for worms in horses, but a bran mash sh. uld be first given. In bad cases of worms give a dose of Broncholine after the Ball. For cows and oxen, for stoppage of the bowels, give a dissolved Ball. 8s. per dozen.

THE BRONCHOLINE.

Invaluable for hush, hoarse, or cough in cattle, calves, and sheep; for tapeworms, and worms in horses. 1/4-dozen box, 7s. 6d.

THE GASEODYNE.

Used as lenda-um in uncontrollable spasmodic pains in ewes lambing and perfectly safe. 1/4-dozen box, 10s. 6d.

THE ALCOHOLIC ETHER.

Used as sweet spirits of nitre in severe colds and shivering fits. 1/4-dozen box, 7s. 6d.

Prepared only by **DAY, SON & HEWITT, 22 DORSET STREET, LONDON W.**

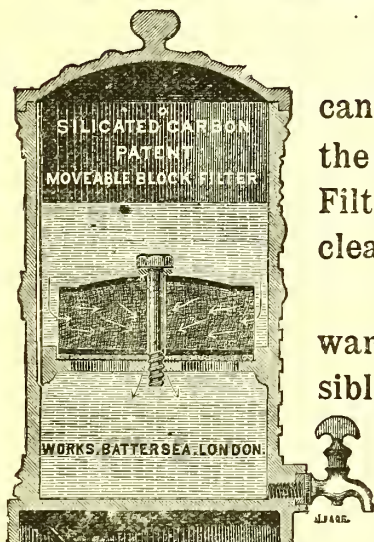
And sold by all Wholesale Houses in London; Hood & Co., Melbourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co. Launceston; Felton, Grimwade & Co., Sydney and Wellington; Dombain & Co., Christchurch.

A LIBERAL DISCOUNT TO EXPORTERS, AND ALL PARTICULARS ON APPLICATION.

SILICATED CARBON

PATENT MOVABLE BLOCK FILTERS.

LIBERAL DISCOUNT TO THE TRADE.



(Section.)

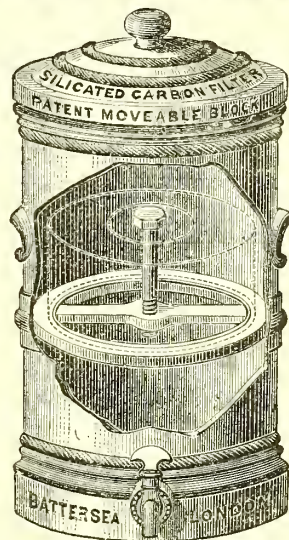
Domestic Filters (as above), in Cream-coloured Stoneware, with Plated Taps and Patent Movable Blocks:—

No. 27.	O. $\frac{1}{2}$ gal. 10/6 each.	D. 6 gals. 42/- each.
A. 1 "	14/6 "	E. 8 " 52/- "
B. 2 "	21/- "	F. 12 " 70/- "
C. 4 "	32/- "	

The Silicated Carbon Block can be instantly removed, leaving the whole of the interior of the Filter OPEN for inspection and cleansing.

The working parts are stoneware, and no corrosion is possible.

No loose Pan or inner vessel to cause breakage.



(Elevation with Block removed.)

Dining Room Filters, in Marbled China, with Plated Taps and Patent Movable Blocks:—

No. 22.	A. 2 gals. 35/- each
B. 5 "	80/- "

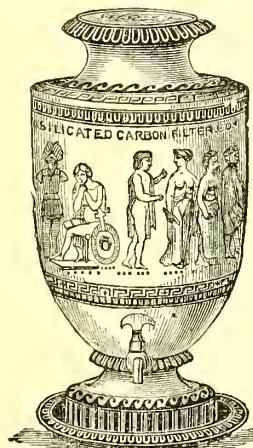
Refrigerative Terra Cotta. do. do. :—

No. 25.	2 gals. 31/6 "
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In ordering please state "with patent movable block."

PRIZE FILTER,

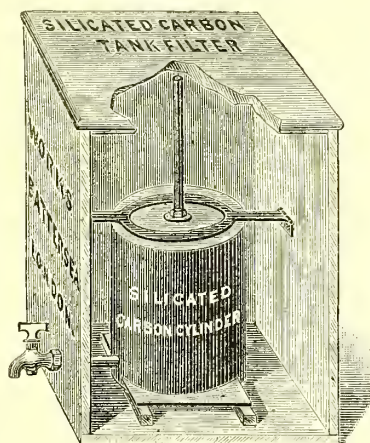
With Patent Movable Block.



No. 23.

Price, with Plated Tap, £3 10s. 0d.

TANK FILTER.



No. 41.

No. A, 10 gallons.	No. B, 20 gallons.	No. C, 40 gallons.
£3 3s. 0d.	£4 4s. 0d.	£6 6s. 0d. each.

SHIP FILTER.

Wicker Covered, with Patent Movable Block



No. 26.

	£	s.	d.	
$\frac{1}{2}$ gallon..	0	10	6	each.
1 "	0	15	0	"
2 "	1	2	0	"
4 "	1	16	0	"
6 "	2	8	0	"
8 "	2	17	6	"
10 "	3	8	0	"

FOR FULL ILLUSTRATED LISTS WRITE TO THE

SILICATED CARBON FILTER COMPANY,

CHURCH ROAD, BATTERSEA, LONDON, S.W.

LIBERAL DISCOUNT TO THE TRADE.

DR. G. H. JONES, F.R.S.L., &c , SURGEON-DENTIST,

57 GREAT RUSSELL STREET, LONDON
(Facing British Museum entrance),

Will forward his New 64-page Pamphlet, entitled "PAINLESS AND PERFECT DENTISTRY," which contains a List of the Diplomas, Gold and Silver Medals, and other Awards obtained at the Great International Exhibitions, to any part of the world, gratis and post free. *Agents Wanted.*

PETROLEUM JELLY,

EQUAL TO AND CHEAPER THAN VASELINE.
SANITARY FLUID AND SHEEP DIP,
THE CHEAPEST AND BEST DISINFECTANT.
GREASE, PITCH, ASPHALTE, AND ALL PRODUCTS OF TAR AND ROSIN.
Samples and Prices on application.

GRINDLEY & CO., POPLAR, LONDON, E.

EDWD. S. T. STANTIAL, WHOLESALE AND RETAIL DRUGGIST, PIETERMARITZBURG, NATAL.

London Agents: Messrs. HAWKES, SOMERVILLE & CO.,
1 WHITTINGTON AVENUE, E.C.

Critchley's Starch Gloss

Makes Starched Linen like new. Does not stick to spider-like Materials. Once tried always wanted. Used in the Royal Laundries. Sold everywhere, in Packets, 1d., 3d., 6d., and 1s. each. Write for quotations.

Prepared only by
T. CRITCHLEY,
BLACKBURN, and
1 & 2 Australian Avenue,
LONDON, E.C.

S. SAINSBURY'S

Prepared from the finest
ENGLISH LAVENDER,
without any foreign whatever.

176 & 177 STRAND, LONDON.

Prices from 1s. to 6s.

Lavender Water.

THE PERFECT SURGICAL BANDAGE.

Preferred to all Makes hitherto used.

In Cases of Twelve Six-yard Rolls, 2 inches wide, 3s. 9d.; 2½ inches, 4s. 6d.; 3 inches, 5s. 6d.; or, Case containing twelve Six-yard Rolls of each width, 13s.

Free by post, to any address in the United Kingdom, for prepaid orders only.

MANUFACTURED BY THE

Bole Hall Mill Company, Tamworth, Staffordshire.

A. S. LLOYD'S EUXESIS,

For SHAVING without SOAP, WATER or BRUSH,
And in one half the ordinary time.

AIMEE LLOYD 3 Spur Street, Leicester
(Widow of A. S. LLOYD) Square, LONDON.

SAVE OVER 30 PER CENT. BY USING PARAFFINUM MOLLE. P.B.

(REFINED IN VACUO.)

A translucent, perfectly neutral, inodorous, tasteless, and soft (not granular) hydrocarbonaceous jelly. Sp. gr. at melting point, 0.868. Soluble in ether. Cannot become rancid or saponified. Prices—Yellow, 7 lbs., 4/; 12 lbs. 50/. White, 5 lbs., 5/; 40 lbs., 35/. Tins free.

PARAFFINUM DURUM. P.B.

Answers all Pharmacopœia "characters and tests." 9d. per lb. Sample pound of either by parcels post, 1/. Process supervised by

CHARLES SAUNDERS, Analytical and Manufacturing Chemist,
6 Rochester Sq., N.W. *Special quotations to Wholesale Houses.*

PURE PRECIPITATED CHALK.

Cheapest Sellers in the Market.

Chemicals, Drugs, and Oils at lowest market rates.

APPLY TO

AUG. LEVERMORE & CO.,
8 LIME STREET, LONDON, E.C.

Medical and Sanitary
Exhibition, 1881.

DIABETES

AWARD OF MERIT.

VAN ABBOTT'S GLUTEN BREAD,

And all other suitable Foods for Diabetic Patients.

Dietary Tables and Price Lists post free on application.

VAN ABBOTT, 5 Princes Street, CAVENDISH SQ., W.



ASSAY FURNACES, &c. THE MORGAN CRUCIBLE CO.,

Sole Manufacturers of
MORGAN'S and SALAMANDER CRUCIBLES,

BATTERSEA, LONDON, S.W.

All kinds of Crucibles in Plumbago, Clay, &c.,
Single and in Nests.

Muffles, Portable Assay and Melting Furnaces, &c.

Read "Assay Notes" in C. AND D., April 15, 1883.

BROMIDIA

(REGISTERED).

NEW HYPNOTIC.

One Bottle 4/6 | One Dozen 40/
One Gross, 10 per cent. discount.

FOR SALE BY ALL WHOLESALE AND EXPORT DRUGGISTS.

BATTLE & CO., 38 SOUTHAMPTON ROW, LONDON, W.C.

TO LET.

PERFUMES, No. 30.

FIFTY KINDS.

9s. for 20 ozs., Carriage Paid.

Samples of any kind for 2 stamps.

When buying, compare my Perfumes with other makers', and buy the best.

GEORGE DURRANT, HERTFORD.

London Depot—Messrs. BAISSE BROS. & CO.

STOWER'S PURE LIME JUICE and LEMON JUICE PREPARATIONS, Also PURE LIME JUICE

(Free from musty flavour and alcohol).

Proprietors—A. RIDDLE & CO., 38 Commercial Street, London, E.

"SPÉCIALITÉ" LIME JUICE

(NO MUSTY FLAVOUR).

For Sample and Terms

FELTOE & SONS,
ALBEMARLE STREET, LONDON, W.

Can be obtained through the Wholesale Houses.

LIQ. HUMULI CO. CONC.,

1 to 15 AQUA,
FOR TONIC BITTERS
(A FACSIMILE).

Sample and quotation free on receipt of three penny stamps.

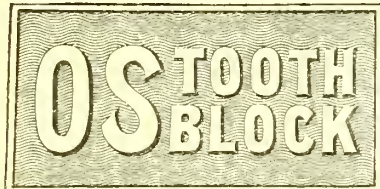
J. HINTON KENDALL, Chemist, Blyth

POWELL & BARSTOW,

5 Albion Place, Blackfriars Bridge, London, S.E.,
Late W. HURLSTONE & CO., Blackfriars Road and Vine Street, S.E.,
MANUFACTURERS TO THE WHOLESALE TRADE OF
ELASTIC GUM SURGICAL INSTRUMENTS.
WORKS, LAMBETH. ESTABLISHED 1830.

OSCAR SUTTON & CO., Preston, Lancashire.

O. S. TOOTH BLOCK



REGISTERED TRADE MARK.

"THE BEST AND SAFEST DENTIFRICE."

Be particular to observe that the Registered Trade Mark and the name "OSCAR SUTTON & CO." are stamped on all that are genuine, as worthless imitations are in the market. These Goods are selling well all over the World.

They are supplied in three styles:—No. 0. LOOSE, without boxes, to meet a growing demand for them in this form. No. 1. In Patent Metallic Boxes, to retail at 1/ each. No. 2. In elegant Crystal Caskets, to retail at 2/6 each. Nos. 0 and 1 can now be supplied with Customer's Name and Address stamped on each Tooth Block, without any extra charge, beyond the first cost of specially-prepared dies, which will serve again. No. 1 can also be supplied with Leatherette Labels affixed to the body of each metallic box, bearing customer's name, &c., or special design, in gold or silver on dark ground, affording an attractive method of advertising hours or modes of business, or and leading speciality. Write to your Wholesale House for particulars and for Show Cards any Counter Bills.
OVER 1000 TESTIMONIALS.

CARBOLICA

Is the Best and Cheapest NON-POISONOUS DISINFECTANT. CARBOLICA POWDER is put up in large and small tins and packets; also in bags and casks.

CARBOLICA FLUIDS can be had in stoppered bottles of all sizes also in drums and casks.

CARBOLIC ACID, 95 per cent.—CARBOLATED CREOSOTE—CHLORIDE OF LIME, &c., &c.

ALL GOODS produced in BEST STYLE at LOWEST PRICES.

Special quotations to shippers and large buyers.

For WHOLESALE PRICE LIST apply to the CHEAPEST HOUSE in the TRADE.

HAMILTON & CO., 118 High St., Wandsworth, London, S.W.

W. S. YATES,

Chemists' Shop Fitter, Shop Front Builder, and
Glass Show Case Maker.

DENTIST CASES.

Plans and Estimates supplied for Work in any part of the Kingdom.

9 CAMDEN STREET, LIVERPOOL.

TRADE



MARK.

J. A. WINK & CO., Ltd.,

MANUFACTURING CHEMISTS.

Office and Warehouse—2 DEVONSHIRE SQUARE, LONDON.

Works—QUEENSFERRY, FLINTSHIRE.

SPECIALTIES—

Morphia Alkaloid, in powder and crystals, and all its Salts, Codeia,

Apomorphia Mur., Narceine, Papaverine,

Meconic Acid, all other Opium Products, and Fine Chemicals.

Telegraphic Address—"APOMORPHIA LONDON."

TRADE



MARK.

Packed direct from the Kilns, by most ingenious Machinery, in small and convenient Packets, without increase of cost, especially suited to the Trade.

HOPS

WHOLESALE DEPOT—

THE BRITISH
HOP PACKING
COMPANY,

Hop Factors,

Three Crown Square,
BORO', LONDON, S.E.

In $\frac{1}{2}$ -lb., 1-lb., 2-lbs., $3\frac{1}{2}$ -lbs., 7-lbs., 14-lbs., 28-lbs., 56-lbs. COMPRESSED PACKETS.

INDEX TO ADVERTISEMENTS,

See Pages iii-v.



CROWN STOPPERED PERFUME.

THE CROWN PERFUMERY CO.



177 NEW BOND STREET, LONDON,
Wholesale and Export Perfumers, Manufacturers of
Best English Transparent and Fine Toilet Soaps.

SEVEN PRIZE MEDALS AWARDED.

CONCENTRATED PERFUMES, of great fragrance and strength.
TANGLEWOOD, WHITE ROSE, CROWN BOUQUET, } 16/, 20/, 28/, 48/
OPOPONAX, MATHIOLA, WHITE HELIOTROPE, } and 84/ per doz.

THE CROWN SOAPS, finest quality, richly scented, 84/ per cwt.

BEST OLD ENGLISH TRANSPARENT SOAP, unscented, 36/ per gross.
" " " " " highly perfumed, 72/ per gross.

OPALINE SKIN SOAP, for the Complexion, 48/ per gross.

INVIGORATING LAVENDER SALTS, Registered.—The new and popular smelling salts, 16/ per doz n.

OPALINE TOOTH PASTE, 7/ and 10/6 per dozen.

OPALINE FACE POWDER, 3/6, 7/, and 15/ per dozen.

EXTRACT OF LIMES AND GLYCERINE, for the Hair, 8/ and 15/ per dozen.

THE CROWN BRILLIANTINE, delicately scented, 8/, 12/, and 20/ per dozen.

SAPONINA—The Perfect Dentifrice, 8/ and 12/ per dozen.

SIR ERASMUS WILSON'S HAIR WASH, the Best Restorer, 18/ and 30/ per dozen.

Indents may be forwarded through any English Merchant or Drug House.

PRICE LIST ON APPLICATION TO THE MANUFACTORY—

NEW FAIRFIELD WORKS, OLD BAILEY, LONDON, E.C.

S. MAW, SON & THOMPSON

HAVE JUST RECEIVED

A LARGE CONSIGNMENT OF
EGYPTIAN LOOFAHS
OF EXCEPTIONALLY GOOD QUALITY.

PRICE TO THE TRADE:

From 4s. to 12s. per doz., according to size.
Very large Picked Specimens, uncut, for
Show, from 1s. 6d. to 2s. 6d. each.

S. MAW, SON & THOMPSON, LONDON.

IMPORTANT TO VISITORS FROM INDIA AND THE COLONIES.

We have just issued a **COMPLETE CATALOGUE OF DRUGGISTS' SUNDRIES**, containing many Saleable Novelties. 1,000 Illustrations. We will Mail it to any part of the World on receipt of Business Card.

SPECIALITIES.

Adhesive Plaster, in 6d. Tins.	Cold Cream, Pots (flat series).	Glycerine Soap.	Pill Coaters.
Areca-nut Tooth Paste.	Corn Rubbers.	Gutta Percha Tooth	Plasters (Porous, &c.)
Beetle Powder.	Ear Syringes.	Stopping.	Prometheans.
Benzine (Perfumed).	Electro Magnetic	Higginson's Enemas.	Respirators.
Cachou Lozenges.	Apparatus.	Hair Wash Powder.	Smelling Bottles.
Carded Goods (a large variety).	Feeding Bottles, "The Pet" (in 22 patterns).	Inhalers.	Sponges (Carded).
Cement (Chinese and Holdfast).	Floating Lights (Tin).	Insect Powder.	Spray Producers.
Cherry Tooth Paste.	Fly Paper.	Japanese Curl Papers.	Teething Pads.
Chest Protectors.	Fuller's Earth Powder.	„ Medicated Paper.	Thermometers.
	Glycerine Jelly.	Mustard Leaves.	Vagina Syringes.
		Nursery Lamps.	Violet Powders.
		Parchment Paper.	Wafer Paper.

BOURNE, JOHNSON & LATIMER,

WHOLESALE AND EXPORT DRUGGISTS' SUNDRIESMEN,

34 & 35 FURNIVAL STREET, LONDON, E.C.

STEELE'S PATENT PACKETS CONTAINING

CHLORIDE OF LIME

Packed in uniform-sized Boxes at the following prices:—

12 doz. 1d. size	...	...	8/-
8 „ ¼-lb. „	...	...	8/-
4 „ ½-lb. „	...	...	7/6
2 „ 1-lb. „	...	...	7/-
Assorted Boxes, containing 8 1-lb., 12 ½-lb., 16 ¼-lb., 32 1d. size, 7/9.			

Above Prices are subject to usual Wholesale discounts.



Our Packets are air-tight, water-proof, neat, and clean, with full directions for Disinfecting and Bleaching purposes, containing Lime of best quality and full Chlorine strength.

FOR EXPORT they are specially suitable, and we can with confidence recommend them.

Samples on application.

PREPARED ONLY BY

**JOHN C. STEELE & CO.,
MANUFACTURING CHEMISTS,**
Victoria Street, Port Eglinton, GLASGOW. | 42 CHEAPSIDE, LONDON. | "CHLORIDE GLASGOW."

EXTRA QUALITY GINGER BEER POWDERS, "RISING SUN" BRAND. Retail 3d. per Packet.

Superior to all others, being made from selected Jamaica Ginger, and consequently of great strength and fine aroma.

Each packet is in cardboard box, wrapped in foil, so that the powder can be kept for a lengthened period without deterioration.

They are nicely got up, and there is no name on label, merely the brand as below to prevent imitations. This enables them to be sold as seller's own article. Where a quantity is taken customer's own name can be printed

with any alteration of label required. Correspondence on this point invited.

These Powders have been in use for over 30 years, and none other sell so freely, are such good value for money, or give such universal satisfaction, whilst the wholesale price will compare favourably with other makes.

A large trade can be done by selling to small shopkeepers, who will readily pay 1/9 to 2/3 dozen for them. Packed in outer boxes of 3 dozen each

PRICE 16/- GROSS NETT. ONE GROSS CARRIAGE PAID.

SPECIAL WHOLESALE QUOTATIONS FOR 5 GROSS AND UPWARDS.

PROPRIETORS:

W. KEMP & SON, HORNCASTLE.

London Agents—MESSRS. BARCLAY & SONS,

Who hold Stock, and supply at above price in London. N.B.—Specially adapted for export.

FACSIMILE OF LABEL.



DRUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

SPECIALITIES:

Concentrated Infusions
Fluid Extracts

Insufflated Juices
Concentrated Liquors
Solid Extracts

Decoctions
Composition Effence
Botanic Extracts

Vegetable Colours
Fruit Effences

Soluble Effences of Lemon, Orange, Ginger, &c., &c., for the Aërated Water Trade.

IMPERIAL BOUQUET, a very choice and lasting perfume, price 8s. 6d. per lb.; 8s. in Wr. Qts.

Vegetable Butter Colouring

(AS DANISH).

This preparation is superceding Annatto, Carrots, and all other colorants, and where once tried is always used.

PRICES—

Bulk, 1s. 2d. per lb., 5 per cent. discount.; Bottles, 4s., 8s., 16s. per dozen, 10 per cent. discount.

SPECIAL QUOTATIONS TO LARGE BUYERS.

OLDFIELD, PATTINSON & COMPY.,

Wholesale Druggists & Manufacturing Chemists,

17 TODD STREET, MANCHESTER.



CHLORIDE OF LIME!

IN AIRTIGHT WATERPROOF & ODOURLESS PACKAGES
INVENTORS AND MANUFACTURERS **NATIONAL CHEMICAL CO., LONDON**

THE N. C. Co's. PACKAGES HAVE STOOD THE TEST FOR MANY YEARS, AND CAN ALWAYS BE RELIED UPON TO GIVE SATISFACTION.

KEPT IN STOCK BY ALL WHOLESALE DRUGGISTS & C.
SEE THEIR PRICE LISTS.



BURROUGH'S
Best Cale St.
Distillery,
Methylated
CHELSEA, S.W.
Spirits
AT LOWEST PRICES.

Also Best
Miscible
Naphtha
FINEST WOOD NAPHTHA.
JAMES BURROUGH,
LONDON, S.W.

B. NOAKES & CO.,

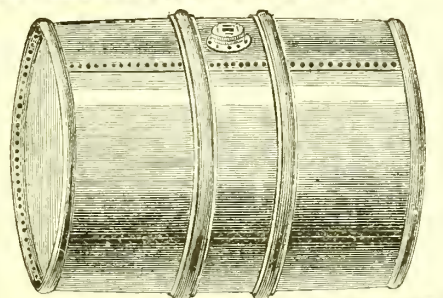
MANUFACTURERS OF
Metallic Casks, Drums, & Kegs

ENAMELLED, PLAIN, AND DECORATED
TIN CANISTERS AND BOXES,
FOR PACKING CHEMISTS' AND DRUGGISTS' SUNDRIES.

ENAMELLED SHOW CARDS.

IRON BARRELS,
CAPACITY 40 TO 120 GALLONS
AS PER ILLUSTRATION.

Cable and Telegraphic Address—
"NOAKES LONDON."



These large Iron Casks, similar to sketch, can be handled with equal facility to wooden barrels, and, owing to their strength and durability, can be used over and over again for an indefinite period. They are perfectly liquid tight, being tested at a very high air pressure, and, unlike wood, do not absorb any of the contents. They are all fitted with interchangeable screw bungs, and can also be fitted with screw plug in head, for draw-off tap.

They are specially adapted for all kinds of Chemical Products, Sulphuric Acid, Glycerine, Spirits, Oils, Turpentine, Petroleum, Benzoline, Varnishes, Tar, Naphtha, Mineral Extracts, and Indammable Liquids of every description.

We are making them in three qualities, "Black Iron," "Lead Coated," and "Tinned."

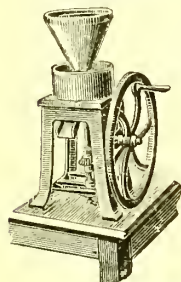
PRICE LIST ON APPLICATION.

Offices and Works: 142 SPA ROAD, BERMONDSEY, LONDON, S.E.

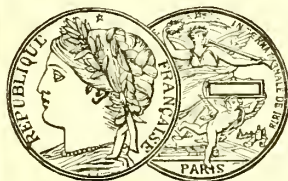
FOLLOWS & BATE, LIM., Engineers,

HORIZONTAL
MILL.

For Dry Powders.



IMPROVED & LATEST MACHINERY



PARIS, 1878.

FOR
DRUG GRINDERS,
WHOLESALE
Chemists & Druggists

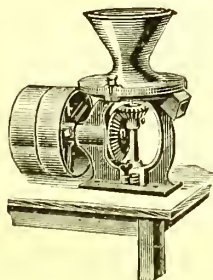
&c.



VIENNA, 1873.

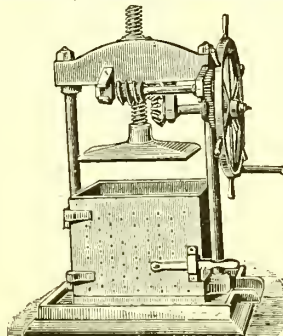
NEW DRUG MILL.

For Ginger, Roots, and all kinds of friable materials.



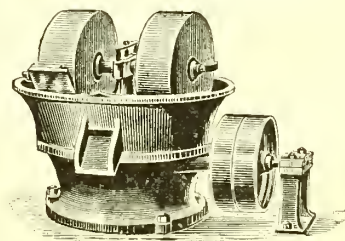
COMPOUND PRESS.

For Tinctures, &c. (made in Wood and Iron).



POWER EDGE RUNNER MILL.

With Iron or Granite Rollers and Bed.



NOTICE TO THE TRADE.

Messrs. J. SANGER & SONS beg to inform their Customers and the Trade generally that the statement made by their late Traveller, Mr. Biffin, as to their declining Representation in the NORTH, MIDLANDS, WEST OF ENGLAND, and SOUTH WALES, IS ERRONEOUS. They have now replaced him on the road by a suitable Representative.

489 OXFORD STREET, LONDON, W.

1,000 HANDBILLS.

SPECIAL NOTICE.

1,000 HANDBILLS.

HIMROD'S CURE FOR ASTHMA.

We can now supply 1,000 4to Handbills of superior quality, with name and address, and printed on one side only, with order for $\frac{1}{2}$ dozen direct from

J. SANGER & SONS, 489 OXFORD STREET, W.

THE SPECIAL ATTENTION OF THE TRADE IS CALLED TO

BENZINE COLLAS

Which is acknowledged on all hands to be the most reliable Preparation for removing Grease, Oil, Tar, Wax, or Paint from every description of Wearing Apparel or Household Stuffs. It neither injures the colour or texture, nor leaves any odour or stain. It is neatly got up, and is a most saleable article. Observe the word "COLLAS" on label and cap.

1,000 Handbills, with Name and Address, will be printed for any Chemist who gives an order for £1 WORTH of BENZINE COLLAS at the following prices, viz.:-

6d. Size, 4s. per doz., subject to Discount. 1s. Size, 8s. per doz., subject to Discount. 1s. 6d. Size, 13s. 6d. per doz., subject to Discount. SPECIAL QUOTATIONS TO SHIPPERS AND BUYERS OF 6 DOZEN OF ANY SIZE AND UPWARDS.

J. SANGER & SONS, 489 Oxford St., London, W.

MAW'S MENTHOL.

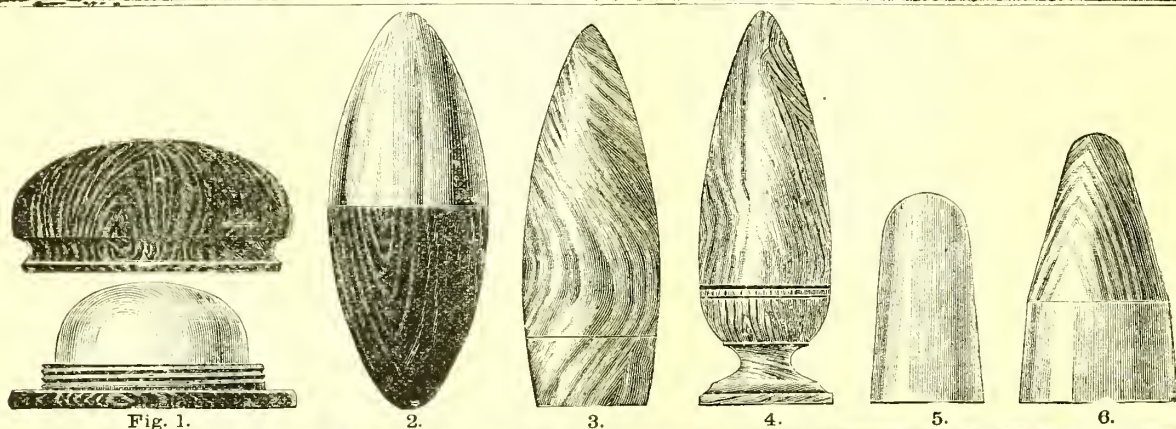


Fig. 1.	MAW'S MENTHOL,	in Ebony or Cocus Wood Cases, flat for the pocket	...	Per doz.	7/6
	"	in Boxwood Cases	...	"	6/-
	"	in Vegetable Ivory Cases	...	"	7/-
Fig. 2.	MAW'S MENTHOL,	portable, with Screw Metal Caps	...	"	6/-
	"	1 dozen, on Wire Stand	...	"	7/-
Fig. 3 & 4.	MAW'S MENTHOL,	in Boxwood Cases	...	"	3/6 and 6/-
	"	in Vegetable Ivory Cases	...	"	5/6 and 7/6
Fig. 5.	MAW'S MENTHOL,	in White Opaque Glass Jars with Red Celluloid Caps	...	"	3/3 and 5/-
	"	in Stopped Bottles	...	"	6/-
Fig. 6.	MAW'S MENTHOL,	on Wood, in Glass Bottles	...	"	6/-

S. MAW, SON & THOMPSON, LONDON.

MENTHOL CONES—A1 BRAND.

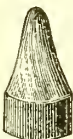
No. 1.

ORDER AS
A1
BRAND.

No. 2.

ORDER AS
A1
BRAND.

No. 4.

ORDER AS
A1
BRAND.

No. 5.

ORDER AS
A1
BRAND.

No. 6.

ORDER AS
A1
BRAND.

No. 7.

ORDER AS
A1
BRAND.

No. 8.

-/6 Glass,
3/6 per doz.-/6 Willow Wood,
3/6 per doz.1/- Menthol on Wood
Mount, in Screw-
capped Glass Bottle,
6/9 per doz.1/- Bullet Shape
Cone, in Screw-
capped Bottle,
6/9 per doz.1/- Boxwood,
Pedestal Shape,
5/- per doz.1/- Boxwood,
Barrel Shape,
6/- per doz.1/- Boxwood,
Acorn Shape,
6/- per doz.

No. 12.—Polished Sycamore, 3/6 per doz.

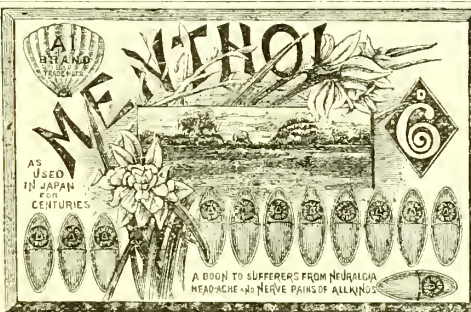
No. 15.—6d. Cardboard, pretty, pocketable, saleable, 3/- per doz.

Special Terms to Shippers
and Large Buyers.

We still continue to give away an empty Show case with 2 doz. 1/ and 1 doz. 6d. sizes, or 5 doz. 6d. of our brand. The case is 11 in. long by 5 1/2 in. deep, and the lid lifts so that the goods can be sold from it, making it both a useful and attractive addition to a chemist's counter.

1/- & 1/6
Boxwood,
Skittle
Shape.
3/- and 7/9
per doz.

GUARANTEED PURE JAPAN MENTHOL.
NO STAMP REQUIRED.



No. 19.—Quite new, bound to sell, 6d. Boxwood, egg-shape, arranged on an attractive show-card, in 5 colours with easel back. 3s. per doz. The cheapest shape going.

Nos. 11 & 14.



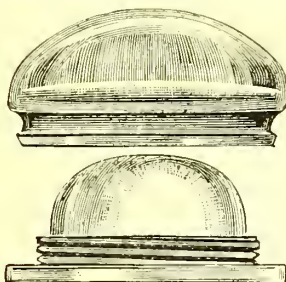
No. 13.—Vegetable Ivory Acorn or Skittle Shape, each in a separate box, 6/6 per doz.

No. 13a.—Ditto, 12 in a hinged outer, without separate cardboard boxes, 6/3 per doz.

5 per cent. discount for cash with order, if sent direct.

-/6 and 1/- Boxwood, Pyramid Shape, each in a separate cardboard box, 4/- and 6/6 per doz.

Ditto, 12 in hinged outer, without separate cardboard boxes, 3/6 and 6/3 per doz.



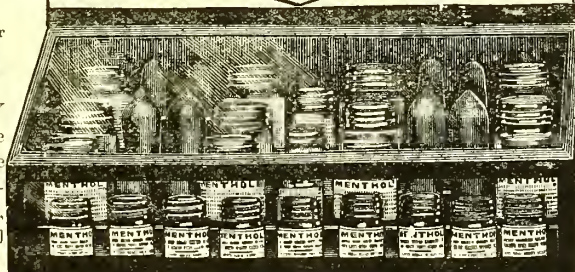
No. 17.—Quite New. Draughtsman Shape, Ebony and Boxwood assorted. The most pocketable shape in the market. 7/3 per dozen.

Ditto, in vegetable ivory, 8/- per dozen.

Write for NEW PRICE LIST, sent post free on application. Want of space prevents our drawing sufficient attention to Novelties, &c., but in Price List full particulars are given.

MENTHOL versus HOT WEATHER.

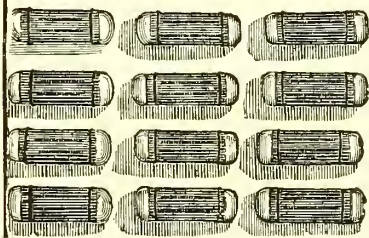
We have endeavoured to meet the difficulty so often experienced in showing Menthol during the warm weather, by supplying a show-case, 8 in. long by 4 in. deep, fitted with *Dummies*, for the nominal charge of 2/-. This we will give away with orders of 6 doz. By this means the Menthols themselves can be kept in the cool.



No. 10.

A1 Brand. MENTHOL A1 Brand.

6d. NEURALGIA & HEADACHE PENCIL 6d.



-/6, 12 on a card, 3/6 per doz.

The A1 Brand is put up in 19 different forms, at prices to suit all classes of trade. These prices we do not constantly vary, but endeavour to take a fair average of the market price of Menthol, and on that basis to supply at as low a price as possible compatible with a good, reliable, and saleable article.

All shapes and sizes can be procured through any Wholesale House, or direct from

J. G. SHIRLEY, PROPRIETOR A1 BRAND MENTHOL,
30 PATERNOSTER SQUARE, LONDON, E.C.

Telegraphic Address—"MENTHOL LONDON."

THOMPSON, MILLARD & CO.



LIMITED,
CURTAIN ROAD, LONDON, E.C.

Telegraphic Address, "BEATROP LONDON."

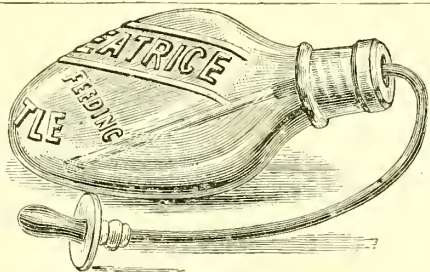


WHOLESALE & EXPORT

DRUGGISTS' SUNDRIESMEN,
DRUGGISTS,
SURGICAL INSTRUMENT MAKERS, PERFUMERS, ETC.

Sole Proprietors of the "Mater," "Bristol," "Imperial,"

BEATRICE AND TROPICAL
FEEDING BOTTLES.



THE "BEATRICE" FEEDING BOTTLE.

With opal glass screw stopper, best black rubber fittings, each in handsome shouldered box arranged to stand the feeder in while filling, and tube and bottle brush, per dozen 8s., subject to usual discount. This Feeder combines the advantages of the straight and bent neck bottles, can be laid on either side without leakage, and is easily cleaned.



THE "TROPICAL" FEEDING BOTTLE.

THOMPSON, MILLARD & Co.'s new PATENTED Boat-shape Feeding Bottle. Fitted with screw glass stopper or metal screw cap at end to allow of cleaning. In two sizes. Illustrated Price List on Application.

Special attention paid to Export Orders, and Illustrated Price Lists posted free to any part of the world on application.

Our goods give universal satisfaction, and buyers may with confidence favour us with a Trial Order.

THOMPSON, MILLARD & CO., LIM., LONDON.

WHY SELL OBSOLETE GOODS ?

The old styles of Filters were very good in their time, but the discovery of JUDSON'S Filtering Medium, to take the place of the "WORSE THAN USELESS" Charcoal, has entirely put them out of the question for Domestic use.

JUDSON'S FILTERS

AND



FILTERING MEDIUM,

THE ONLY Filtering Medium that really Purifies Water, removing Impurities both in **SOLUTION** and Suspension.

Judson's "Galvano-Electric" Filtering Medium is used in all their Filters, and is **WARRANTED** NOT to contain Animal Charcoal or other deleterious matters.

WRITE FOR ILLUSTRATED CATALOGUE.

DANIEL JUDSON & SON, LIM., SOUTHWARK ST., LONDON, S.E.

 GOVERNMENT DISINFECTANT 	
CARBOLIC POWDER (PINK) in 1 Cwt 2 Cwt. CASKS 1lb & 1/2 Packages.	
CARBOLIC POWDER (PINK) in TINS 6d & 1/6	CARBOLIC SOAP N° 1 & N° 2
CARBOLIC FLUID in 6d 1/6 & 1/6 STOPPED BOTTLES	CARBOLIC & GLYCERINE SOAP in 1/4 lb. TABS
THE GOVERNMENT SANITARY CO., LONDON E.	
<small>FREE FROM POISON AGREEABLE IN SMELL.</small>	<small>TO BE HAD FROM ALL WHOLESALE DRUGGISTS.</small>

ROBERT GIBSON, MEDICATED LOZENGE

MANUFACTURER,

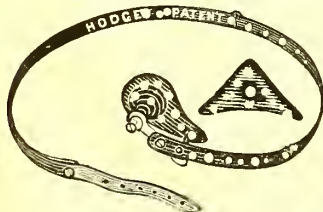
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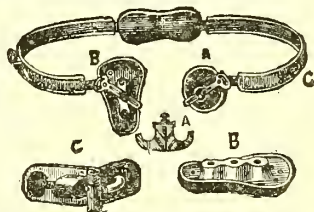
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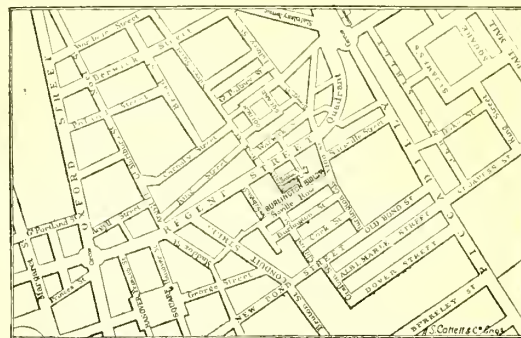
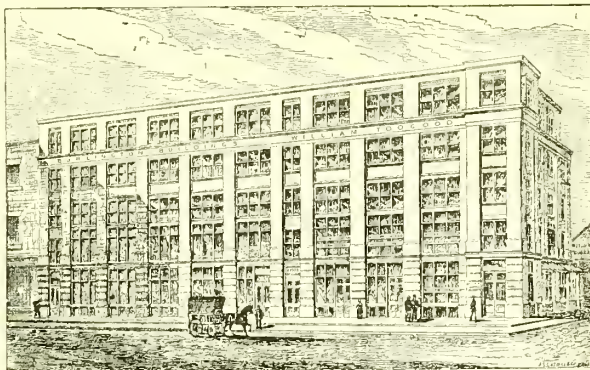
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